Screening Site Inspection
Final Report

for

Drum Disposal Area
ILD 984 791 681

November 8, 1996

Prepared For
U.S. Environmental Protection Agency
under Alternative Remedial Contracting Strategy
Contract 68-W8-0064, Work Assignment 29-5JZZ

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1.0 Introduction

On April 15, 1993, the Alternative Remedial Contracting Strategy (ARCS) Contractor was authorized, by the U.S. Environmental Protection Agency (USEPA) Region V, to conduct a screening site inspection (SSI) of the Drum Disposal Area site in Cook County, Illinois.

The site was initially placed on the Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) on August 29, 1990, by the Illinois Environmental Protection Agency (IEPA) as a result of a request for discovery action (IEPA 1991).

The site received its initial Comprehensive Environmental Response, Compensation, and Liability Act evaluation in the form of a preliminary assessment (PA) completed by IEPA on October 2, 1991 (USEPA 1993). The sampling portion of the SSI was conducted on November 16, 17, and 18, 1993, when the ARCS V contractor field team collected seven soil samples, three surface water samples, four sediment samples, and six groundwater samples.

The purposes of the SSI have been stated by USEPA in a directive outlining pre-remedial program strategies. The directive essentially states:

> All sites will receive a SSI to 1) collect additional data beyond the PA to enable a more refined preliminary Hazard Ranking System (HRS) score, 2) to establish priorities among sites most likely to qualify for the National Priorities List (NPL), and 3) to identify the most critical data requirements for the expanded site inspection (ESI) step. An SSI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as no further remedial action planned (NFRAP) or carried forward as an NPL candidate. An ESI will not automatically be done on these sites. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as Resource Conservation and Recovery Act (RCRA)... Sites that are designated as NFRAP or deferred to other statutes are not candidates for an ESI.
>
> The ESI will address all data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to a higher authority will receive an ESI (USEPA 1988).

USEPA Region V requested that the ARCS V contractor identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

2.0 Site Background

2.1 Introduction

This section includes information obtained during the SSI and from reports of previous site activity.

2.2 Site Description

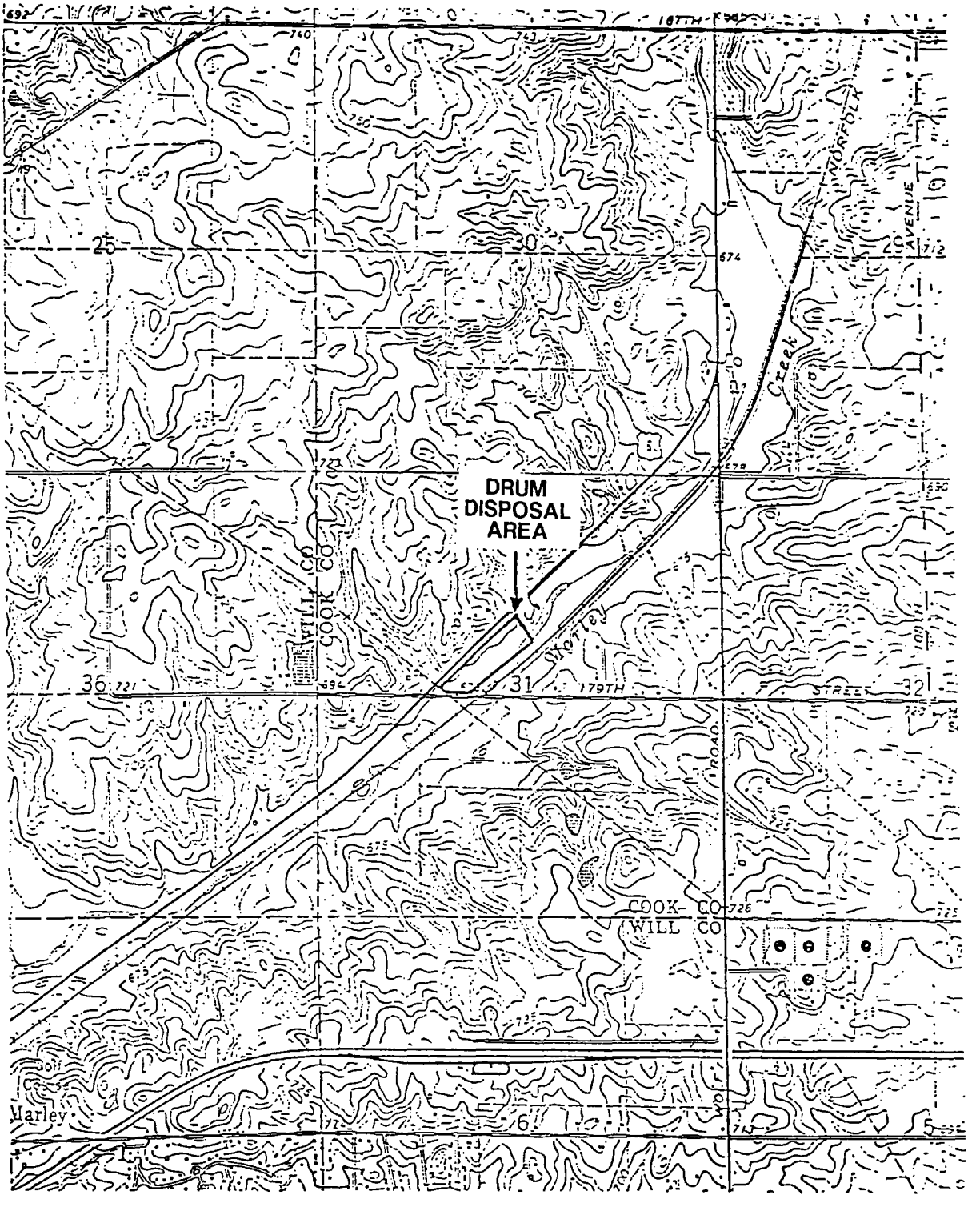
The Drum Disposal Area site is approximately 1 mile southwest of the village of Orland Park, at the northeastern corner of Southwest Highway and 179th Street in Cook County, Illinois. The site occupies about 10 acres in the southeastern quarter of the northwestern quarter of Section 31, Township 36 North, Range 12 East of the Third Principal Meridian, Cook County, Illinois. Figure 2-1 is a site location map; Figure 2-2 is a site layout. The site layout varies from the figure in the site specific implementation plan because the ARCS V contractor gathered additional site information during sampling.

Approximately 1 acre of the site is fenced and secured. The site has relatively flat topography. Traditionally a rural setting, more recently the site area has begun to develop as residential and commercial sites move into the area. The site is bordered on the west by Southwest Highway, beyond which is a recently developed residential area. South of the site is 179th Street, beyond which is a Metra commuter train station under development. North of the site is the John Burns Construction Company. East of the site is Marley Creek and the Norfolk and Western Railroad.

A small rusted drum and a large rusted tank, 10 feet long and 3 feet in diameter, are present onsite, along with an assortment of rubbish, such as crushed stone, chunks of concrete, and railroad ties. This rubbish is in the fenced area. A drum excavation pit, about 5 feet deep, is in the western portion of the fenced area. A small wetland exists east of the fenced area.

2.3 Site History

Prairie Material Sales, Inc., owns the Drum Disposal Area site property. According to Gerry Krozel, vice president of Prairie Material Sales, Inc., the company purchased the property in the mid 1970s. A 1972 plat map shows the site belonged to S. M. Shively.



Source: USGS 1973	N	Figure 2-1 Site Location Map
Scale: Miles 0.0 — 0.5		Drum Disposal Area Orland Park, Illinois

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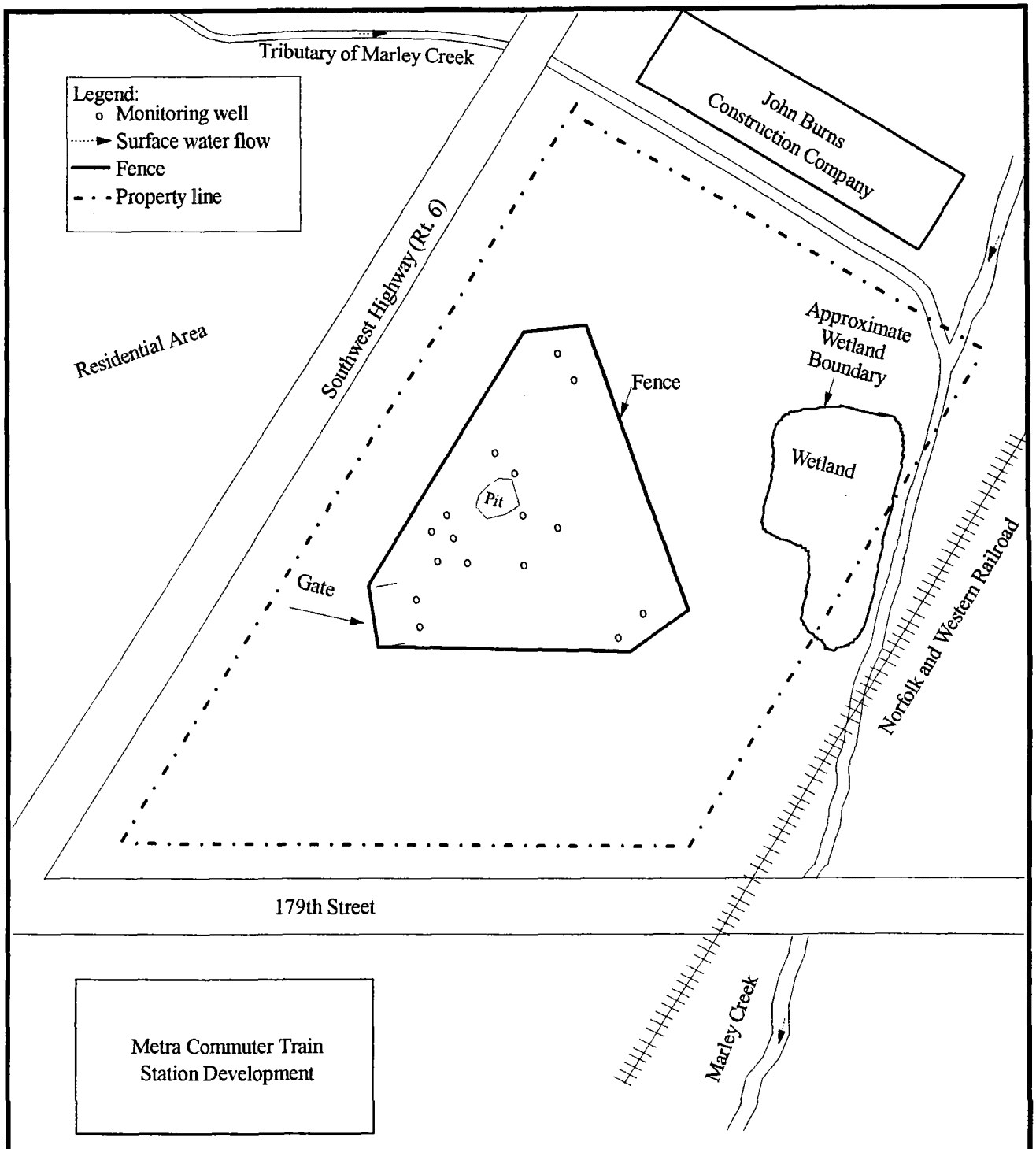

Source: Prairie Environmental Specialists, Inc. 1992	N	Figure 2-2 Site Layout
Scale: Not to scale		Drum Disposal Area Orland Park, Illinois

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The USEPA became involved with the site in May 1989 when they received a complaint alleging that illegal dumping and filling of wetlands were occurring at the site. During investigation of the complaint by USEPA's emergency response section and the technical assistance team, approximately 42 rusted leaking drums; five empty 10,000 to 15,000 gallon tanks; four empty 500 to 1,000 gallon tanks; and scrap metal were found onsite. Analysis of samples collected from stained soil near the leaking drums indicated several contaminants, including acetone, methyl ethyl ketone, toluene, and xylene.

The IEPA became involved with the site in June 1989 when a complaint was received from an official of the Orland Park Planning Department. According to the complainant, drums were disposed of in a wetland area, and drums were leaking a "melted gum" type material (IEPA 1991).

Following these discoveries, USEPA prepared an Administrative Order by Consent (AOC) in which Prairie Material Sales, Inc., agreed to complete emergency removal activities at the site. The AOC was enacted on October 11, 1989.

2.3.1 Operational History

The Drum Disposal Area site was a concrete manufacturing business. Local residents stated the property has been vacant for many years. A 1965 aerial photograph indicates the site was vacant at that time, but later photographs (1976 and 1988) show filling activity at the site (IEPA 1991). According to information received from USEPA records, the site consisted of construction and demolition fill; several large, empty, concrete batch tanks; and drums (IEPA 1991).

2.3.2 Summary of Onsite Environmental Work

During the May 1989 USEPA investigation, samples were collected from five drums and stained surface soil. Analytical sample results showed two drum samples to be ignitable. Soil samples revealed the presence of acetone (2,700 parts per million [ppm]); methyl ethyl ketone (13,000 ppm); toluene (14,000 ppm); and total xylenes (4,700 ppm) (IEPA 1991).

Removal activities at the site began on June 17, 1989. During removal, drums were sampled, overpacked, and removed. Soil was excavated from the drum area. A composite soil sample showed the following results (IEPA 1991):

- methylene chloride (462 parts per billion [ppb])
- acetone (4,010 ppb)
- 2-butanone (262 ppb)
- toluene (3,500 ppb)
- total xylene (1,060 ppb)

Prairie Material Sales, Inc., overpacked 42 drums onsite. On December 14, 1989, the overpacked drums were delivered under a signed uniform hazardous waste manifest to Treatment One, Division of SET Environmental Inc., located at 5743 Chestwood Street, Houston, Texas, for disposal (Prairie Environmental Specialists, Inc. [PES] 1992).

In October 1990, approximately 20 additional cubic yards of soil were excavated in the drum area. As excavation progressed, air monitoring readings rose, indicating more contamination. Soils had strong organic odors, discoloration, and photoionization detector (PID) readings ranging from 15 to 200 ppm (PES 1992).

On October 19, 1990, four test pits (TP-1 through TP-4) were excavated by backhoe around the former drum disposal excavation pit to determine the vertical and horizontal extent of contamination. TP-1 had no affected soils. TP-2, TP-3, and TP-4 contained affected soils at depths of 5 to 12 feet. These soils had PID readings ranging from 40 to 300 ppm (PES 1992).

On October 29, 1990, PES conducted a Phase I subsurface investigation to characterize the extent of possible volatile organic compounds (VOCs) at the site. The investigation included drilling and sampling of nine shallow soil borings (SB-1 through SB-9), and installation and sampling of four monitoring wells (MW-1 through MW-4). Analytical soil sample results revealed detectable concentrations of benzene, ethylbenzene, toluene, xylenes, and tetrachloroethene. Detectable concentrations of benzene ranged from 0.092 ppm at SB-3 (12 to 14 feet) to 0.959 ppm at SB-6 (10 to 12 feet). Ethylbenzene concentrations ranged from non-detect to 0.134 ppm. Toluene concentrations ranged from 0.412 to 12.025 ppm, and xylenes ranged from 0.034 to 1.106 ppm. Tetrachloroethene concentrations ranged from 0.020 to 0.484 ppm. Four soil borings (SB-1, SB-3, SB-6, and SB-8) were converted to monitoring wells (MW-1, MW-2, MW-3, and MW-4) (PES 1992).

On November 8, 1990, PES collected the first round of groundwater samples. Analytical results indicated detectable concentrations of benzene and toluene in MW-3 at 0.055 ppm and 0.250 ppm. On April 10, 1991, PES collected a second round of

groundwater samples. Analytical results from all four monitoring wells indicated no detectable VOCs (PES 1992).

In February 1991, an aquifer slug test was conducted to obtain the hydraulic conductivity of the glacial drift aquifer. The hydraulic conductivity was determined to be 1.30×10^{-3} cm/s for MW-1 and 2.58×10^{-3} cm/s for MW-2. Both wells are screened in silty, clayey sand (PES 1992).

On July 23, 1991, an IEPA PA reconnaissance inspection was conducted at the site. The site was vacant and easily accessible because it was not enclosed by a fence. Most of the site consisted of an open area covered with gravel and sparse vegetation. Several large rusty tanks and various pieces of equipment were exposed onsite. IEPA recommended a low priority rating for a site inspection (IEPA 1991).

In response to a January 10, 1992, USEPA and IEPA meeting, a Phase II subsurface investigation was approved to characterize further the hydrogeologic site conditions and to delineate the extent of VOCs across the site (PES 1992). The investigation began on January 27, 1992. Three nested monitoring wells (MW-5S, MW-5D, MW-6S, MW-6D, MW-7S, and MW-7D) were installed. Each shallow and deep well nest was used to determine the hydrogeologic characteristics of subsurface soils, identify the water table interface, monitor the aquifer, and test for the presence of VOCs (PES 1992).

Phase II subsurface soil analytical results revealed chloroform, styrene, trichloroethene, and xylenes. Chloroform was detected at concentrations ranging from 0.008 to 0.40 ppm. Styrene was detected at concentrations ranging from 0.005 to 0.006 ppm. Trichloroethene and xylene were detected at 0.010 and 0.013 ppm (PES 1992).

On March 25, 1992, PES sampled monitoring wells from Phases I and II. Analytical results indicated only 2-methyl-2-pentanone in MW-1 at 0.075 ppm and in MW-3 at 0.022 ppm (PES 1992).

An onsite meeting with USEPA and IEPA was held on April 29, 1992. As an outcome of the meeting, Prairie Material Sales, Inc., agreed to conduct a Phase III subsurface investigation to characterize further VOC effects around the ground depression area caused by the initial soil removal activities. On June 2, 1992, eight additional soil borings (SB-10, SB-11, SB-12, SB-13, SB-14, SB-15, SB-16, and SB-17) were conducted. Five borings were used to install monitoring wells, MW-8 through MW-12 (PES 1992).

Phase III subsurface soil analytical results indicated benzene, ethylbenzene, 2-hexanone, 4-methyl-2-pentanone, xylenes, chloroform, chlorodibromomethane, and 1,2,3-trichloropropane. Benzene was detected at a concentration of 0.014 ppm in SB-16; ethylbenzene was detected at concentrations ranging from 0.017 to 0.046 ppm; 2-hexanone was detected at concentration ranging from 0.008 to 0.053 ppm; 4-methyl-2-pentanone was detected at concentrations ranging from 0.006 to 0.032 ppm; total xylenes were detected at concentrations ranging from 0.007 to 0.078 ppm; chloroform and chlorodibromomethane were detected in SB-16 at 0.056 and 0.034 ppm; and 1,2,3-trichloropropane was detected in SB-15 at 0.006 ppm (PES 1992).

On July 23, 1992, PES sampled the Phase III monitoring wells. Analytical results indicated no VOCs (PES 1992).

On June 17, July 23, and October 29, 1992, three separate rounds of static water level measurements were obtained for all onsite monitoring wells (PES 1992).

2.4 Applicability of Other Statutes

The Drum Disposal Area site is in the CERCLIS database for Illinois, under identification number ILD 984 791 681 (USEPA 1993). The Drum Disposal Area site is not in the Region V list of RCRA notifiers (USEPA 1994).

3.0 Site Inspection Activities and Analytical Results

3.1 Introduction

This section outlines procedures used and observations made during the SSI conducted at the Drum Disposal Area site. Sampling activities were conducted in accordance with the quality assurance project plan (ARCS V Contractor 1991). Figure 3-1 shows each sample location; Table 3-1 provides a summary of sample descriptions and locations. Figure 3-1 has been updated from a previous report, Site Specific Implementation Plan Figure 3, because of additional site information obtained during site sampling. Appendix A presents a map of the area within a 4-mile radius of the site and a map showing the 15-mile downstream surface water route. Appendix B presents the USEPA Potential Hazardous Waste Site Inspection Report (Form 2070-13).

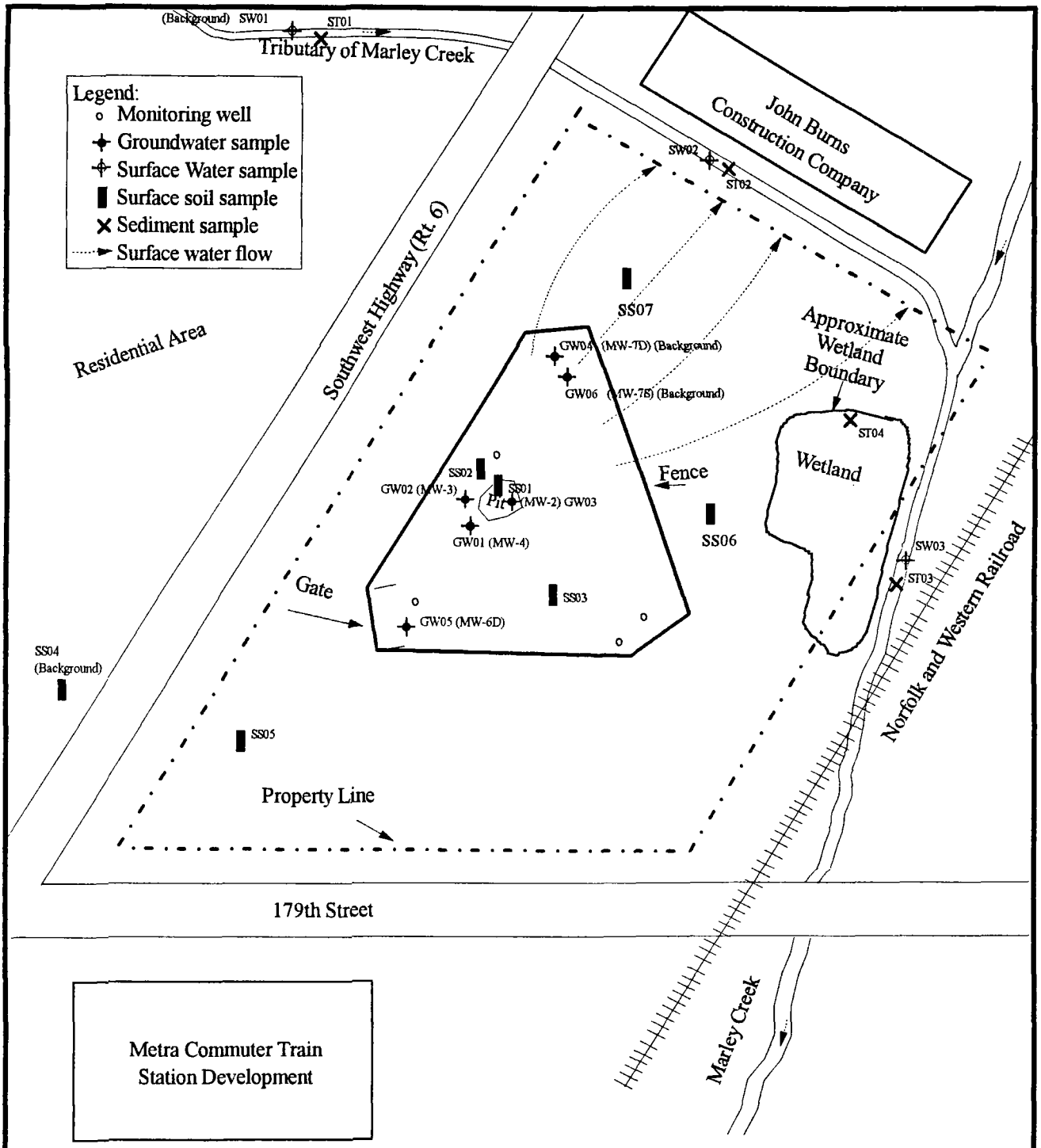
Samples collected for this SSI were analyzed for organic and inorganic substances contained on the USEPA Target Compound List (TCL) and Target Analyte List (TAL) by USEPA Contract Laboratory Program participant laboratories. Appendix C presents the TCL and TAL. Appendix D presents a summary of all analytical data generated by SSI sampling. Appendix E contains photographs of the site and sample locations. Appendix F contains the logs of wells sampled during the SSI.

3.2 Site Reconnaissance

On July 1, 1993, a reconnaissance of the Drum Disposal Area site was conducted. This visit included a visual site inspection to determine the status, facility activities, health or safety hazards, and potential sampling locations.

3.3 Site Representative Interview

The reconnaissance team interviewed Mr. Gerry Krozel, Mr. Robert E. Renguso, and Mr. Richard A. Andros, on July 1, 1993, at the Drum Disposal Area site in Orland Park, Cook County, Illinois. The team discussed the purpose of the SSI and gathered site-specific information.



Source:
Prairie Environmental Specialists, Inc. 1992

Scale:
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Figure 3-1
Sample Locations

Drum Disposal Area
Orland Park, Illinois

FRE00075

Table 3-1
Sample Descriptions

Sample	Depth	Appearance	Location
GW01	14 feet* (glacial drift)	Clear	Collected from MW-4 adjacent to the southwestern side of the pit in the fenced area.
GW02	14 feet* (glacial drift)	Clear	Collected from MW-3 adjacent to the western side of the pit in the fenced area.
GW03	14 feet* (glacial drift)	Clear	Collected from MW-2 in the pit in the fenced area.
GW04	49 feet* (glacial drift/ Silurian dolomite)	Clear	Collected from MW-7D northeast of the pit in the fenced area. Background location for glacial drift/Silurian dolomite interface.
GW05	59.5 feet* (glacial drift/ Silurian dolomite)	Clear	Collected from MW-6D southwest of the pit in the fenced area.
GW06	21 feet* (glacial drift)	Clear	Collected from MW-7S northeast of the pit in the fenced area. Background location for glacial drift.
SW01	1 foot	Turbid	Collected approximately 20 feet west of Southwest Highway upstream of the site from the southern bank of a tributary into Marley Creek. Background location.
SW02	0-3 inches	Turbid	Collected in tributary that feeds Marley Creek northeast of the site at the probable point of runoff entry into the creek.

* Depth measured from ground surface to bottom of well.

Table 3-1 (Continued)
Sample Descriptions

Sample	Depth	Appearance	Location
SW03	1 foot	Turbid	Collected downstream in Marley Creek east of the site and west of the Norfolk and Western Railroad.
ST01	0-3 inches	Dark brown to black, sandy silt with organic material	Collected approximately 20 feet west of Southwest Highway upstream of the site from the southern bank of a tributary into Marley Creek. Background location.
ST02	0-3 inches	Dark brown sandy silt with organic material.	Collected in tributary that feeds Marley Creek northeast of the site at the probable point of runoff entry into the creek.
ST03	0-3 inches	Medium brown sandy silt with organic material.	Collected downstream in Marley Creek east of the site and western of the Norfolk and Western Railroad.
ST04	0-3 inches	Light grey gravelly silty sand.	Collected in onsite wetland in the eastern portion of the site.
SS01	6 inches	Red brown to dark brown silty clay.	Collected in the pit within the fenced area; 32' east of the western fence line and 4' south of MW-2.
SS02	6 inches	Dark brown to black clayey silt.	Collected adjacent and northwest of the pit within the fenced area; 7' east of the western fence line and 5' south of MW-10.
SS03	6 inches	Light brown sandy gravel.	Collected south of the pit within the fenced area; 71' east of fence line and 72' north of southern fence line.
SS04	6 inches	Dark brown to black clayey silt.	Collected on the western side of Southwest Highway; 163' north of 179th Street and 62 feet west of Southwest Highway. Background location.

Table 3-1 (Continued)
Sample Descriptions

Sample	Depth	Appearance	Location
SS05	6 inches	Dark brown sandy gravel.	Collected south of the fenced area; 99' east of Southwest Highway and 190' south of fence.
SS06	6 inches	Brown to dark brown sandy clay.	Collected east of the fenced area; 36' north of northern fence line and 120' east of Southwest Highway.
SS07	6 inches	Brown to dark brown sandy clay.	Collected north of the fenced area; 69' east of Southwest Highway and 82' north of northern fence line.

3.4 Groundwater Sampling

On November 16 and November 17, 1993, the ARCS V field team collected six groundwater samples on the Drum Disposal Area site. Figure 3-1 presents the approximate sample locations; Table 3-1 describes the samples.

Samples were labeled GW01 through GW06. Sample GW01 was collected with a stainless steel bailer from monitoring well four (MW-4) located adjacent to the southwestern side of the pit. Sample GW02 was collected with a stainless steel bailer from MW-3 located adjacent to the western side of the pit. Sample GW03 was collected with a stainless steel bailer from MW-2 located in the pit. Sample GW04 was collected with a stainless steel bailer from MW-7D located northeast of the pit. Sample GW04 is a background location for the glacial drift/Silurian dolomite interface. Sample GW05 was collected from a stainless steel bailer from MW-6D located southwest of the pit. Sample GW06 was collected from a stainless steel bailer from MW-7S located northeast of the pit. Sample GW06 is a background location for the glacial drift.

Groundwater samples scheduled for inorganic analysis were shipped to SVL Analytical, Inc., in Kellogg, Indiana, on November 17, 1993. Samples scheduled for organic analysis were shipped to Keystone Laboratory in Houston, Texas, on November 17, 1993.

3.5 Surface Water and Sediment Sampling

On November 18, 1993, the ARCS V field team collected three surface water and four sediment samples from the Drum Disposal Area site. Figure 3-1 presents the approximate sample locations; Table 3-1 describes the samples.

Surface water samples were labeled SW01 through SW03. Sediment samples were labeled ST01 through ST04. Samples SW01 and ST01 were collected approximately 20 feet west of Southwest Highway upstream of the site from the southern bank of a tributary into Marley Creek. These samples are upgradient from the site and are assumed to be representative of background surface water conditions. Samples SW02 and ST02 were collected in the tributary that feeds Marley Creek northeast of the site at the probable point of runoff entry into the creek. Samples SW03 and ST03 were collected downstream at Marley Creek east of the site and west of the Norfolk and Western Railroad. Sample ST04 was collected from the onsite wetland at the beginning of the point of entry from probable runoff.

Surface water samples scheduled for inorganic analysis were shipped to ITMO in Earth City, Missouri, on November 18, 1993. Sediment samples scheduled for inorganic analysis were shipped to SVL Analytical, Inc., in Kellogg, Indiana, on November 18, 1993. Surface water samples scheduled for organic analysis were shipped to Encotec in Ann Arbor, Michigan, on November 18, 1993. Sediment samples scheduled for organic analysis were shipped to Keystone Laboratory in Houston, Texas, on November 18, 1993.

3.6 Soil Sampling

On November 16, 1993, the ARCS V field team collected seven surface soil samples from the site. Figure 3-1 presents the approximate sample locations; Table 3-1 describes the samples.

Soil samples were labeled SS01 through SS07. Sample SS01 was collected in the pit within the fence to investigate present soil conditions. Sample SS02 was collected adjacent to the pit within the fence to investigate the potential presence of constituents. Sample SS03 was collected south of the pit and within the fence to investigate the potential presence of constituents. Sample SS04 was collected on the western side of Southwest Highway to serve as an offsite background location. Sample SS05 was collected south of the fenced area to investigate the potential presence of constituents. Sample SS06 was collected northeast of the fenced area to investigate the potential presence of constituents. Sample SS07 was collected north of the fenced area to investigate the potential presence of constituents.

3.7 Analytical Results

This section summarizes analytical results from SSI samples. Appendix D presents SSI analytical data.

Laboratory analysis of groundwater samples detected one pesticide and several inorganic analytes. Laboratory analysis of the surface water samples detected one inorganic analyte. Laboratory analysis of the sediment samples detected inorganic analytes. Laboratory analysis of the surface soil samples detected a VOC, semivolatile organic compounds (SVOCs), a pesticide, and inorganic analytes.

3.8 Key Samples

"Key samples" are those samples that contain substances in sufficient concentration to document an observed release. Table 3-2 identifies SSI key samples.

Table 3-2
Key Sample Summary

Groundwater (µg/L)

Substance	Sample Number/Aquifer					
	GW01 Glacial Drift	GW02 Glacial Drift	GW03 Glacial Drift	GW06* Glacial Drift	GW05 Glacial Drift/ Silurian dolomite	GW04* Glacial Drift/ Silurian dolomite
4,4'-DDD	–	–	–	–	0.48 J	0.10 UJ
Aluminum	750.0	30.6 B	–	25.0 U	–	–
Cobalt	–	8.8 B	–	4.0 U	–	–
Copper	4.5 JBN**	–	–	2.0 UJN	–	–
Iron	856 J	–	–	70.1 UB	–	–
Lead	17.1 S	–	–	1.0 UJW	–	–
Potassium	–	–	–	–	10100	3180 B
Manganese	–	939 J	–	55.3 J	–	–
Thallium	–	–	1.1 BW	1.0 UJW	–	–
Zinc	37.1 J**	–	–	3.0 JB**	–	–

Surface Water (µg/L)

Substance	Sample Number/Aquifer	
	SW01*	SW03
Sodium	10200 J	39200

Sediments (µg/kg)

Substance	Sample Number		
	ST01*	ST02	ST04
Barium	114000	–	352000
Cadmium	720 U	820 B	–
Magnesium	5710000	–	22900000
Sodium	109000 B	–	401000 B

Table 3-2 (Continued)
Key Sample Summary

Surface Soil (µg/kg)

Substance	Sample Number					
	SS01	SS03	SS04*	SS05	SS06	SS07
Methylene Chloride	19 B	–	12 U	–	–	–
Phenanthrene	–	1600	400 U	–	–	–
Anthracene	–	420	400 U	–	–	–
di-n-Butylphthalate	–	–	400 U	640	–	–
Fluoranthene	–	2300	400 U	–	–	–
Pyrene	–	2200	400 U	–	–	–
Benzo(a)Anthracene	–	930	400 U	–	–	–
Chrysene	–	1000	400 U	–	–	–
Benzo(b)Fluoranthene	–	1000	400 U	–	–	–
Benzo(a)Pyrene	–	460	400 U	–	–	–
Gamma-BHC (Lindane)	–	4.7 PX	2.1 UJ	–	–	–
Arsenic	–	–	8800	28900	–	–
Barium	–	–	101000	6930000	–	–
Beryllium	–	1000 B	830 B	3400 J	960 B	1000 B
Cadmium	–	–	660 U	1000 B	–	–
Calcium	–	129000000	2050000	91100000	–	–
Copper	–	–	20200 J	129000	–	–
Magnesium	–	47700000	2890000 J	12900000	–	–
Mercury	80 B	–	60 U	–	–	–
Nickel	28200	–	21400 U	29300 J	–	30100
Selenium	–	–	420 JBW	4500 B	–	–
Sodium	–	–	65200 UB	17900000 J	–	–
Vanadium	–	–	25800 J	134000 J	–	–

Table 3-2 (Continued)
Key Sample Summary

*	Background groundwater sample.
**	Duplicate analysis was not within control limits.
–	Compound or element not at elevated levels to indicate a key sample.
GW	Groundwater sample.
SW	Surface water sample.
ST	Sediment sample.
SS	Surface soil sample.
J	Reported value estimated.
U	Substance undetected; reported value is the sample quantitation limit.
B	Organic: Compound found in the associated blank as well as in the sample. Inorganic: Reported value less than the contract required detection limit and greater than or equal to the instrument detection limit.
S	Reported value determined by the method of Standard Additions.
W	Post-digestion spike for AA analysis is out of control limits, while sample absorbance is less than 50 percent of spike absorbance.
N	Spiked sample recovery not within control limits.
P	Greater than 25 percent difference for detected concentration between the two GC columns.
X	The lack of confidence of a reported analyte whose retention times are within required windows on both columns, the lower concentration exceeds CRQLs, but the percent difference exceeds 75 percent.

Key groundwater samples revealed the presence of one pesticide and nine inorganic analytes in the glacial drift and the glacial drift/Silurian dolomite interface aquifer. The pesticide was 4,4'-DDD. Inorganic analytes included aluminum, cobalt, copper, iron, lead, potassium, manganese, thallium, and zinc.

Key surface water samples revealed the presence of one inorganic analyte, sodium. The key sediment sample revealed the presence of four inorganic analytes, which were barium, cadmium, magnesium, and sodium.

The key surface soil samples revealed the presence of 1 VOC, 9 SVOCs, 1 pesticide, and 12 inorganic analytes at the Drum Disposal Area site. The VOC is methylene chloride. SVOCs included phenanthrene, anthracene, di-n-butylphthalate, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, and benzo(a)pyrene. The pesticide was gamma-BHC (lindane). Inorganic analytes included arsenic, barium, beryllium, cadmium, calcium, copper, magnesium, mercury, nickel, selenium, sodium, and vanadium.

4.0 Characterization of Sources

4.1 Introduction

The site reconnaissance and analysis of SSI samples identified the site soil as the source of hazardous substances.

4.2 Contaminated Soil

4.2.1 Description

Analyses of SSI samples SS01 through SS07 indicate approximately 4 acres of soil contain, to some extent, organic and inorganic substances listed in Table 3-2. Samples were taken within the fenced area and north and south of the fenced area. This area is defined by key sample locations that document observed releases.

4.2.2 Waste Characteristics

SSI analytical results indicated the area of affected soil contains releases of a VOC, SVOCs, pesticides, and inorganic analytes. The VOC was methylene chloride (19 ppb); the SVOCs included phenanthrene (1,600 ppb); anthracene (420 ppb); di-n-butyphthalate (640 ppb); fluoranthene (2,300 ppb); pyrene (2,200 ppb); benzo(a)anthracene (830 ppb); chrysene (1,000 ppb); benzo(b)fluoranthene (1,000 ppb); and benzo(a)pyrene (460 ppb). The pesticide was gamma-BHC (4.7 ppb). The inorganic analytes were arsenic (28,900 ppb); barium (6,930,000 ppb); beryllium (960 to 3,400 ppb); cadmium (1,000 ppb); calcium(91,100,000 to 129,000,000 ppb); copper (129,000 ppb); magnesium (12,900,000 to 47,700,000 ppb); mercury (80 ppb); nickel (28,200 to 30,100 ppb); selenium (4,500 ppb); sodium (17,900,000 ppb); and vanadium (134,000 ppb).

4.2.3 Potentially Affected Migration Pathways

Pathways other than soil may be affected. Infiltrating precipitation may transport compounds from the soil to the saturated portion of the surficial sand and gravel aquifer and affect the groundwater pathway.

The air pathway may be of concern, especially during dry periods, when substances in surficial soil could be transported to nearby populated areas as airborne particulate matter.

4.3 Other Potential Sources Within One Mile

Review of the USEPA CERCLIS and RCRA lists showed Van Bruggen Sign Company is approximately one-half mile northwest of the site. Van Bruggen Sign Company is on the Illinois RCRA list, ILD 046 568 978.

5.0 Discussion of Migration Pathways

5.1 Introduction

This section includes information useful in analyzing the potential effect of contaminants found at the Drum Disposal Area site on the four migration pathways: groundwater, surface water, air, and soil.

5.2 Groundwater

Four glacial drift and two glacial drift/Silurian dolomite interface monitoring wells were sampled during this SSI. Both the glacial drift and glacial drift/Silurian dolomite interface monitoring wells are screened in the glacial drift. Four glacial drift monitoring wells are MW-2, MW-3, MW-4, and MW-7S. MW-2, MW-3, and MW-4 are screened from 9 to 14 feet below ground level (BGL) (PES 1992). MW-7S is screened from 5 to 21 feet BGL (PES 1992). Two glacial drift/Silurian dolomite interface monitoring wells are MW-6D and MW-7D. MW-6D is screened in the lower portion of the glacial drift on top of the Silurian dolomite, from 49.5 to 59.5 feet BGL (PES 1992). The Silurian dolomite was encountered at 59.5 feet BGL. MW-7D is screened in the lower portion of the glacial drift and into the Silurian dolomite, from 39 to 49 feet BGL (PES 1992). The Silurian dolomite was encountered at 47 feet BGL. A southwesterly groundwater flow was determined from static water level measurements from monitoring wells MW-1, MW-2, and MW-4 recorded from November 1990 to April 1991 (PES 1992). Analytical results of monitoring well samples indicate the presence of one pesticide and nine inorganic compounds.

Regional geologic reports and area well logs indicate Orland Park is blanketed by unconsolidated, Quaternary age, glacial drift [Willman 1971, Illinois State Water Survey (ISWS) 1993]. The glacial drift is predominantly gray, silty clay with localized sand and gravel units. Glacial drift thickness varies between approximately 50 and 100 feet.

Directly beneath and interconnected with the glacial drift is the Silurian dolomite aquifer. This is a shallow bedrock aquifer in Cook County that receives local recharge from precipitation (Hughes et al. 1966). The Silurian dolomite varies in thickness with a maximum of nearly 500 feet in the southeastern part of Cook County. Depth to the top of the aquifer varies throughout the area from approximately 60 to more than 100 feet (ISWS 1993).

The deep bedrock aquifer system below Orland Park is the Cambrian-Ordovician system (Hughes et al. 1966). Depth to the Cambrian-Ordovician aquifer system is approximately 550 feet. The shallow aquifer system and the deep aquifer system are not thought to be interconnected because the Maquoketa shale is directly below the Silurian dolomite. The Maquoketa shale is approximately 50 feet thick and acts as an impermeable boundary preventing the downward migration of water (Willman 1971).

Site specific well logs indicate approximately 50 feet of unconsolidated glacial drift lying atop Silurian age bedrock (Kohl 1992). The glacial drift mainly consist of silty clay with sand lenses (Kohl 1992). The water table was encountered approximately 10 to 12 feet below ground surface.

The Illinois State Water Survey (ISWS) Private and Public-Industrial-Commercial (PICs) database indicates approximately 1,581 private wells serve approximately 4,474 residents within 4 miles of the site [ISWS 1993, U.S. Department of Commerce (USDC) 1990]. Nineteen private wells draw water from the glacial drift. Of these 19 private wells, 1 is located 0.25 to 0.50 mile from the site, 7 are located 1 to 2 miles from the site, 4 are located 2 to 3 miles from the site, and 7 are located 3 to 4 miles from the site. There are private wells drawing water from the Silurian dolomite. Of these wells, 2 are located within 0.25 mile from the site, 5 are located 0.25 to 0.50 mile from the site, 23 are located 0.50 to 1 mile from the site, 293 are located within 1 to 2 miles from the site, 599 are located 2 to 3 miles from the site, and 640 are located 3 to 4 miles from the site. One private well draws water from the Cambrian-Ordovician aquifer. This well is located 1 to 2 miles from the site.

The town of Mokena uses groundwater as its primary municipal source. Mokena's four municipal wells are located approximately 1.5 to 3 miles southeast of the site. They are screened in the Silurian dolomite and are approximately 200 to 400 feet deep. The well system serves about 6,128 residents. Within 3 to 4 miles of the site is a municipal well used as a backup system serving Orland Park. The well serves about 19,510 people. Orland Park receives Lake Michigan water. The backup well is screened in the Silurian dolomite and is approximately 400 feet deep. Seven school wells draw water from the Silurian dolomite aquifer: one well is within 2 miles of the site; three are within 3 miles of the site; and the other three wells are within 4 miles of the site. Each school well is arbitrarily assigned a value of 1,000 persons using each well.

Table 5-1 presents estimated populations using private wells within 4 miles of the Drum Disposal Area site. Table 5-2 presents public water supply sources within 4 miles of the site. Private and municipal well locations were obtained from the ISWS PICs databases (ISWS 1993). Well locations were plotted on U.S. Geological Survey (USGS) 7.5' quadrangle topographic maps (USGS 1973, 1980). Populations associated with each private well were determined using an average of 2.83 persons per household. This is an average of Cook (2.67) and Will (2.98) counties (USDC 1990). Municipal water well populations, whether primary source or backup, were determined using the IEPA groundwater source location report (IEPA 1985).

5.3 Surface Water

The Drum Disposal Area site is undeveloped with relatively flat topography. Site runoff flows northeast into the tributary of Marley Creek. The northeastern side of the site is defined as the probable point of entry of overland flow into the surface water pathway. Within 15 downstream miles of the site, the name and length of each in water segment are a tributary of Marley Creek (0.25 mile), Marley Creek (5.75 miles), and Hickory Creek (9 miles).

Surface water and sediment samples were both taken from the same two locations in the tributary of Marley Creek and one location in Marley Creek, to evaluate potential releases to the surface water pathway. A sediment sample was taken from an onsite wetland. Background samples SW01/ST01 were collected from the southern bank of the tributary of Marley Creek approximately 20 feet west of Southwest Highway. Samples SW02/ST02 were collected from the tributary of Marley Creek northeast of the site at the probable point of runoff entry into the creek. Samples SW03/ST03 were collected downstream in Marley Creek east of the site and west of the Norfolk and Western Railroad. Sediment sample ST04 was collected from an onsite wetland, located in the northeastern part of the site. No surface water or sediment samples were taken north of the confluence because of minimal surface water flow into the tributary of Marley Creek and Marley Creek confluence. The majority of the water flow to the confluence was from the tributary of Marley Creek. Inorganic contaminants barium, magnesium, and sodium found in onsite soil have migrated to the onsite wetland. The inorganic contaminant cadmium found in onsite soil migrated to the tributary of Marley Creek. The inorganic contaminant sodium found in onsite soil migrated to Marley Creek.

Table 5-1 Private Well Users	
Radial Distance From Drum Disposal in Miles	Approximate Population Served By Private Wells
0.00 to 0.25	6
0.25 to 0.50	17
0.50 to 1.00	65
1.00 to 2.00	849
2.00 to 3.00	1,706
3.00 to 4.00	1,831
Total Population:	4,474

Table 5-2
Public Water Supply Sources Within 4 Miles of Drum Disposal Area

Distance/Direction From Site	Source Name	Location of Source	Approximate Population Served	Source Type
1-2 miles southeast	Mokena, Illinois Municipality	Northeast corner of 191 St. and 114th Ave in Sec. 6, T 35 N, R 12 E.	1,532	Silurian dolomite (355 feet deep)
2-3 miles southeast	Mokena, Illinois Municipality	Southeast corner 191 St. and Rt. RR in Sec. 9, T 35 N, R 12 E.	1,532	Silurian dolomite (420 feet deep)
2-3 miles southeast	Mokena, Illinois Municipality	Bonnes and Wolf adjacent to tower in Sec. 8, T 35 N, R 12 E.	1,532	Silurian dolomite (417 feet deep)
2-3 miles southeast	Mokena, Illinois Municipality	Section 8, T 35 N, R 12 E.	1,532	Silurian dolomite (225 feet deep)
3-4 miles northwest	Orland Park, Illinois Municipality	Section 17, T 36 N, R 12 E.	19,510	Silurian dolomite (397 feet deep)
1-2 miles east	Maue School, Illinois School Well	Section 32, T 36 N, R 12 E.	1,000 (assumed)	Silurian dolomite (assumed)
2-3 miles south	St. Marys School, Illinois School Well	Section 7, T 35 N, R 12 E.	1,000 (assumed)	Silurian dolomite (assumed)
2-3 miles south	Willowcrest School, Illinois School Well	Section 7, T 35 N, R 12 E.	1,000 (assumed)	Silurian dolomite (assumed)
2-3 miles north	Doctor School, Illinois School Well	Section 18, T 36 N, R 12 E.	1,000 (assumed)	Silurian dolomite (assumed)
3-4 miles southwest	Lincoln Way High School, Illinois School Well	Section 14, T 35 N, R 11 E.	1,000 (assumed)	Silurian dolomite (assumed)
3-4 miles northeast	Fernway School, Illinois School Well	Section 22, T 36 N, R 12 E.	1,000 (assumed)	Silurian dolomite (assumed)
3-4 miles	Arbury Hills School, Illinois School Well	Section 10, T 35 N, R 12 E.	1,000 (assumed)	Silurian dolomite (assumed)

The tributary of Marley Creek, Marley Creek, and Hickory Creek are fresh water systems used as fisheries.

The site is in a 100 year flood plain (Federal Emergency Management Agency 1981).

Surface water is not used as a drinking water source within 15 miles downstream of the site. No drinking water intakes exist in the downstream target distance limit.

Within 4 miles of the site and 15 miles downstream of the site are three threatened species (pied-billed grebe, blazing star, and veery) and two endangered species (slippershell mussel and red-shouldered hawk) [Illinois Department of Conservation (IDOC) 1994].

5.4 Air

No documented air releases are known, and none was observed during the SSI. However, the presence of a VOC, SVOCs, pesticides, and inorganics at or near the ground surface creates the potential for windblown particulates that could be an inhalation hazard to anyone at the site. The site is undeveloped and unpaved; gravel and grass cover most of the property. Site access is unrestricted, except for the 6 foot chain-link fence with barbed wire that surrounds the monitoring well area.

Nearby wetlands and sensitive environments are also a possible target for windblown chemicals. Three threatened species and two endangered species exist within 4 miles of the site and along the 15 mile downstream target distance limit (IDOC 1994). Messenger Woods Natural Area is within 4 miles of the site. Hickory Sedge Meadow Natural Area and Pilcher Park National Area are along the downstream target distance limit.

5.5 Soil

Seven soil samples were collected from the Drum Disposal Area site. One soil sample was collected across Southwest Highway as a background. Direct contact with affected site soils is possible. Soil samples showed the presence of a VOC, SVOCs, pesticides, and heavy metals at or near the ground surface.

6.0 References

ARCS V Contractor, 1991. Quality Assurance Project Plan for Region V Superfund Site Assessment Program, September 27.

Federal Emergency Management Agency (FEMA), 1981. Flood Insurance Rate Map, Panel 215 of 245 for Cook County (Unincorporated Areas).

Hughes, G.E., et al., 1966. "Bedrock Aquifers of Northeastern Illinois," Illinois State Geological Survey, Circular 460.

Illinois Department of Conservation (IDOC), 1994. National Heritage Database.

Illinois Environmental Protection Agency (IEPA), 1985. "Groundwater Source Location Report," Division of Public Water Supplies.

IEPA, 1991. CERCLA Preliminary Assessment Report for Drum Disposal Area, September 27.

Illinois State Water Survey, 1993. Private and PICS Databases and copies of area well logs.

Kohl, M.J., et al., 1992. "Report of Findings from the Phase II & III Subsurface Investigation at Prairie Material Sales, Inc.,"Prairie Environmental Specialists, Inc. November 11.

Prairie Environmental Specialists, Inc. (PES), 1992. Report of Findings from the Phase II & III Subsurface Investigation at Prairie Material Sales, Inc., November 11.

U.S. Department of Commerce (USDC), 1990. "Summary Population and Housing Characteristics Illinois"

U.S. Environmental Protection Agency (USEPA), 1988. "Pre-Remedial Strategy for Implementing SARA," Office of Solid Waste and Emergency Response, Washington, D.C., Directive Number 9345.2-101, February 12.

USEPA, 1993. Illinois CERCLIS List, October 4.

USEPA, 1994. Illinois RCRA List, March 10.

U.S. Geological Survey, 1973. 7.5 minute quadrangle, topographic map, Mokena.

U.S. Geological Survey, 1980. 7.5 minute quadrangle, topographic map, Tinley Park.

Willman, H.B., 1971. "Summary of the Geology of the Chicago Area," Illinois State Geological Survey, Circular 460.

Appendix A

Site 4-Mile Radius Map and
Site 15-Mile Surface Water Route Map

Appendix B

USEPA Form 2070-13

Drum Disposal Area

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Drum Disposal Area	179th Street and Southwest Highway

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Orland Park	IL	60462	Cook	031	3

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
41 33 57	87 54 00	[X] A. PRIVATE [ ] B. FEDERAL _____ [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER _____ [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
11 / 16 / 93 (MONTH DAY YEAR)	[ ] ACTIVE [X] INACTIVE	Mid 1970s (BEGINNING YEAR) Present (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

[ ] A. EPA [X] B. EPA CONTRACTOR BVWS (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR _____ (Name of firm)
[ ] E. STATE [ ] F. STATE CONTRACTOR _____ (Name of firm) [ ] G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Mitchell Balek	Civil Engineer	BVWS	(312) 346-3775
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Joanne Gonzalez	Civil Engineer	BVWS	(312) 346-3775
Alison Cataldo	Technician	BVWS	(312) 346-3775
Baltazar Berena	Technician	BVWS	(312) 346-3775
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Robert Renguso	Project Manager	1275 West Roosevelt Rd. Suite 104	(708 293-4441
		West Chicago, Il. 60185	( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT	0900	40-45°, overcast skies

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Robert Renguso	Prairie Environmental Specialists, Inc.	(708) 293-4441

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Mitchell Balek	USEPA	BVWS	312-346-3775	05 / 31 / 94 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE: ILD | 02 SITE NUMBER: 984 791 681

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [X] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS: unknown
- CUBIC YARDS: unknown
- NO. OF DRUMS: 42

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [X] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSO	PESTICIDES	unknown		
OCC	OTHER ORGANIC CHEMICALS	unknown		
IOC	INORGANIC CHEMICALS			
ACO	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
PSD	4,4' - DDD	72-43-5	Found in GW sample	0.48	ppb
MES	Aluminum	1344-28-1	Found in GW samples	750	ppb
MES	Cobalt	10210-68-1	Found in GW sample	8.8	ppb
MES	Copper	7440-50-8	Found in GW sample	4.5	ppb
MES	Iron	1309-37-1	Found in GW sample	856	ppb
MES	Lead	7439-92-1	Found in GW sample	17.1	ppb
MES	Potassium		Found in GW sample	10,100	ppb
MES	Thallium	7440-28-0	Found in GW sample	1.1	ppb
MES	Sodium	7440-23-5	Found in GW sample	39,200	ppb
MES	Barium	7440-39-3	Found in SD sample	352,000	ppb
MES	Cadmium	7440-43-9	Found in SD sample	820	ppb
MES	Magnesium	7439-95-4	Found in SD sample	22,900,000	ppb
MES	Sodium	7440-23-5	Found in SD sample	401,000	ppb
			GW= groundwater		
			SW= surface water		
			SD= sediment		

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	unknown		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling results)

Preliminary Assessment, IEPA 1991.

Site Inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- A. SOLID
- B. POWDER, FINES
- C. SLUDGE
- D. OTHER (Specify)
- E. SLURRY
- F. LIQUID
- G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS
- CUBIC YARDS
- NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- A. TOXIC
- B. CORROSIVE
- C. RADIOACTIVE
- D. PERSISTENT
- E. SOLUBLE
- F. INFECTIOUS
- G. FLAMMABLE
- H. IGNITABLE
- I. HIGHLY VOLATILE
- J. EXPLOSIVE
- K. REACTIVE
- L. INCOMPATIBLE
- M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES	unknown		
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently used CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Manganese	7439-96-5	Found in GW sample	939	ppb
MES	Zinc	7440-66-6	Found in GW sample	37.1	ppb
MES	Beryllium	7440-41-7	Found in SS sample	3,400	ppb
MES	Nickel	7440-02-0	Found in SS sample	30,100	ppb
S	Vanadium	7440-62-2	Found in SS sample	134,000	ppb
MES	Sodium	7440-23-5	Found in SS sample	17,900,000	ppb
MES	Selenium	7782-48-2	Found in SS sample	4,500	ppb
MES	Mercury	7439-97-6	Found in SS sample	80	ppb
MES	Magnesium	7439-95-4	Found in SS sample	47,700,000	ppb
MES	Copper	7440-50-8	Found in SS sample	129,000	ppb
MES	Calcium		Found in SS sample	129,000,000	ppb
MES	Cadmium	7440-43-9	Found in SS sample	1,000	ppb
MES	Barium	7440-39-3	Found in SS sample	6,930,000	ppb
MES	Arsenic	7440-38-2	Found in SS sample	28,900	ppb
PSD	gamma-BHC (Lindane)	58-89-9	Found in SS sample	4.7	ppb
OCC	Benzo (a) pyrene	50-32-8	Found in SS sample	460	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, IEPA 1991.

Site Inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- A. SOLID
- B. POWDER, FINES
- C. SLUDGE
- D. OTHER _____ (Specify)
- E. SLURRY
- F. LIQUID
- G. GAS

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- A. TOXIC
- B. CORROSIVE
- C. RADIOACTIVE
- D. PERSISTENT
- E. SOLUBLE
- F. INFECTIOUS
- G. FLAMMABLE
- H. IGNITABLE
- I. HIGHLY VOLATILE
- J. EXPLOSIVE
- X. REACTIVE
- L. INCOMPATIBLE
- M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	Benzo (b) fluoranthene	205-99-2	Found in SS sample	1000	
OCC	Chrysene	218-01-9	Found in SS sample	1000	
OCC	Benzo (a) anthracene	56-55-3	Found in SS sample	930	
OCC	Pyrene	129-00-0	Found in SS sample	2200	
OCC	Fluoranthene	206-44-0	Found in SS sample	2300	
OCC	di-n-Butylphthalate	84-74-2	Found in SS sample	640	
OCC	Anthracene	120-02-7	Found in SS sample	420	
OCC	Phenanthrene	85-01-8	Found in SS sample	1600	
OCC	Methylene Chloride	75-09-2	Found in SS sample	19	
			SS = surface soil		
			ppb = parts per billion		

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, IEPA 1991.

Site Inspection Report, BVWS 1995.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 948 791 681

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 37,115
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Groundwater sampling indicated the presence of volatiles and metals.

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: unknown
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The presence of inorganics was indicated in surface water and sediment samples from Marley Creek and a sediment sample from the onsite wetland.

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: 14,839
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No documented air releases are known, and none were observed during the SSI. However, the presence of volatiles, semivolatiles, pesticides and metals at or near the ground surface creates the potential for windblown particulate matter.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: unknown
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

In the fall of 1989, samples were collected from drums at the site and found to be ignitable. Drums were removed from the site.

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: unknown
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Seven soil samples collected from the site indicated the presence of volatiles, semivolatiles, pesticides, and metals. This indicates a potential for direct contact with all site visitors.

01 ☐ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 10 (Acres)
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Seven soil samples collected from the site indicated the presence of volatiles, semivolatiles, pesticides, and metals.

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 37,115
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Groundwater sampling of the six monitoring wells onsite indicated the presence of metals.

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: 0
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No workers are onsite. Site is currently inactive.

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: unknown
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Seven soil samples collected from the site indicated the presence of volatiles, semivolatiles, pesticides, and metals. This indicates a potential for direct contact with all site visitors.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
ILD | 984 791 681

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

An onsite sediment sample taken in a wetland indicated the presence of metals.

01 ☐ K. DAMAGE TO FAUNA
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include number(s) of species)

None known or observed.

01 ☐ L. CONTAMINATION OF FOOD CHAIN
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known or observed.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums)
02 ☐ OBSERVED (DATE: 1989) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

Leaking drums at the site resulted in soil contaminantion.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known or observed.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known or observed.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The site is a vacant lot where unauthorized dumping of 55-gallon drums occurred.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

Leaking drums at the site were left by an unknown party. The drums have been removed. Some contaminated soil has been excavated and monitoring wells were installed.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, IEPA 1991.

Site inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☒ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☒ H. OPEN DUMP	unknown	
☐ I. OTHER _____ (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☒ H. OTHER soil excavation (Specify)

05 OTHER

- ☐ A. BUILDINGS ON SITE

none

06 AREA OF SITE

10 (Acres)

07 COMMENTS

On August 20, 1990, the site was added to CERCLIS as a result of a request by the IEPA. The request resulted from information received from the officials of the Village of Orland Park concerning leaking drums at the site.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☒ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

The drums have been removed from the site and soil has been excavated. A six foot chain link fence with barbed wire secures the area where the monitoring wells are located.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sampling analysis, reports)

Preliminary Assessment, IEPA 1991.
Site Inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as appropriate)	SURFACE	WELL	02 STATUS: ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. ☐	B. ☒	A. ☐	B. ☐	C. ☒	A. 2 (mi)
NON-COMMUNITY	C. ☐	D. ☒	D. ☐	E. ☐	F. ☐	B. 0.25 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☒ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER	03 DISTANCE TO NEAREST DRINKING WATER WELL
37,115	2 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
approx. 12 (ft)	S-SW	approx. 12 (ft)	(gpd)	☐ YES ☐ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☐ NO	COMMENTS	☐ YES ☐ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Tributary to Marley Creek	☐	0.00 (mi)
Marley Creek	☐	0.01 (mi)
Hickory Creek	☐	6.0 (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 1,356 NO. OF PERSONS	B. 4,197 NO. OF PERSONS	C. 8,598 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
many	0.02 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, density, typical or urban area)

Rural area, but construction undergoing for new subdivisions.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE: ILD | 02 SITE NUMBER: 984 791 681

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
approx. 50 (ft)	7.5 (ft)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
(in)	(in)	0-2 %	flat	%

09 FLOOD POTENTIAL

SITE IS IN 100 YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. 0.50 (mi)

OTHER: B. 0.00 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

2.75 (mi)

ENDANGERED SPECIES: red-shouldered hawk

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. (mi)	B. 2.75 (mi)	C. (mi)	D. (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling reports)

Preliminary Assessment, IEPA 1991.

Site Inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	Seven	Inorganic: SVL Analytical Laboratory, Kellogg, Indiana Organic: Keystone Laboratory, Houston, Texas	March 2, 1994
SURFACE WATER	Four	Inorganic: ITMO Laboratory, Earth City, Missouri Organic: Encotech Laboratory, Ann Arbor, Michigan	February 14, 1994
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	Seven	Inorganic: ITMO Laboratory, Earth City, Missouri Organic: Encotech Laboratory, Ann Arbor, Michigan	March 28, 1994
VEGETATION			
OTHER Sediment	Four	Inorganic: SVL Analytical Laboratory, Kellogg, Indiana Organic: Keystone Laboratory, Houston, Texas	February 27, 1994

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ■ GROUND □ AERIAL

02 IN CUSTODY OF USEPA
(Name of organization or individual)

03 MAPS
□ YES
■ NO

04 LOCATION OF MAPS

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site Inspection Report, BVWS 1995.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	984 791 681

II. CURRENT OWNER(S)

01 NAME	Prairie Material Sales, Inc.
02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	7601 W. 79th Street
04 SIC CODE	
05 CITY	Bridgeview
06 STATE	IL
07 ZIP CODE	60455

(Three additional blank current owner entries: 01 NAME, 02 D+B NUMBER, 03 STREET ADDRESS (P.O. Box, RFD #, etc.), 04 SIC CODE, 05 CITY, 06 STATE, 07 ZIP CODE)

PARENT COMPANY (If applicable)

(Four blank entries: 08 NAME, 09 D+B NUMBER, 10 STREET ADDRESS (P.O. Box, RFD #, etc.), 11 SIC CODE, 12 CITY, 13 STATE, 14 ZIP CODE)

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	S.M. Shively
02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	
04 SIC CODE	
05 CITY	
06 STATE	
07 ZIP CODE	

(Two additional blank previous owner entries: 01 NAME, 02 D+B NUMBER, 03 STREET ADDRESS (P.O. Box, RFD #, etc.), 04 SIC CODE, 05 CITY, 06 STATE, 07 ZIP CODE)

IV. REALTY OWNER(S) (If applicable; list most recent first)

(Three blank entries: 01 NAME, 02 D+B NUMBER, 03 STREET ADDRESS (P.O. Box, RFD #, etc.), 04 SIC CODE, 05 CITY, 06 STATE, 07 ZIP CODE)

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, IEPA 1991.

Site Inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	984 791 681

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P. O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P. O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P. O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P. O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling results, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Unknown	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling analysis, reports)

Preliminary Assessment, IEPA 1991.

Site Inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
Six foot chain link fence around a one acre area.

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling reports)

Preliminary Assessment, IEPA 1991.

Site Inspection Report, BVWS 1995.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II T RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☒ E. CONTAMINATED SOIL REMOVED — 02 DATE 10-19-90 — 03 AGENCY _____
04 DESCRIPTION
Approximately 40 cubic yards of impacted soil was excavated from the former drum impacted area and disposed of at CID Landfill.

01 ☒ F. WASTE REPACKAGED — 02 DATE 10-14-89 — 03 AGENCY _____
04 DESCRIPTION
Forty-two drums were overpacked and delivered to Treatment One, Houston, Texas.

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	984 791 681

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
ILD 984 791 681

II. ENFORCEMENT INFORMATION

PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

On September 27, 1991, a site reconnaissance inspection was conducted. The site is undeveloped and not paved. No samples were collected. Prairie Material Sales, Inc., had no prior knowledge of the 42 illegally dumped, 55-gallon drums of unknown content being located on the property. Later, the drum contents were identified as being glues, nail polish, ignitable oils, and sludges. Prairie Material Sales, Inc. does not use or generate any of those substances in the daily operation of their concrete manufacturing business. A low priority was recommended for the Drum Disposal Area site. Current environmental activity at the Drum Disposal Area site is limited to this SSI.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, IEPA 1991.

EPA FORM 2070-13 (7-81)

Appendix C

Target Compound List and Target Analyte List

Drum Disposal Area

Target Compound List

Volatiles

Chloromethane
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene (total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Bromodichloromethane
1,2-Dichloropropane
Cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-Dichloropropane
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethyl benzene
Styrene
Xylenes (total)

Source: Target Compound List for water and soil with low or medium levels of volatile and semivolatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, ARCS V Contractor, September 27, 1991.

Target Compound List (Continued)

Semivolatiles

Phenol	Acenaphthene
bis(2-Chloroethyl) ether	2,4-Dinitrophenol
2-Chlorophenol	4-Nitrophenol
1,3-Dichlorobenzene	Dibenzofuran
1,4-Dichlorobenzene	2,4-Dinitrotoluene
1,2-Dichlorobenzene	Diethylphthalate
2-Methylphenol	4-Chlorphenyl-phenyl ether
2,2-oxybis-(1-Chloropropane) *	Fluroene
4-Methylphenol	4-Nitroaniline
N-Nitroso-di-n-dipropylamine	4,6-Dinitro-2-methylphenol
Hexachloroethane	N-Nitrosodiphenylamine
Nitrobenzene	4-Bromophenyl-phenyl ether
Isophorone	Hexachlorobenzene
2-Nitrophenol	Pentachlorophenol
2,4-Dimethylphenol	Phenanthrenel
bis(2-Chloroethoxy) methane	Anthracene
2,4-Dichlorophenol	Carbazole
1,2,4-Trichlorobenzene	Di-n-butylphthalate
Naphthalene	Fluoranthene
4-Chloroaniline	Pyrene
Hexachlorobutadiene	Butyl benzyl phthalate
4-Chloro-3-methylhenol	3,3-Dichlorbenzidine
2-Methylnaphthalene	Benzo(a)anthracene
Hexachlorocyclopentadiene	Chrysene
2,4,6-Trichlorophenol	bis(2-Ethylhexyl)phthalate
2,4,5-Trichlorophenol	Di-n-Octyphthalate
2-Chloronephthalene	Benzo(b)fluoranthene
2-Nitroaniline	Benzo(k)fluoranthene
Dimethylphthalate	Benzp(a)pyrene
Acenaphthylene	Indeno(1,2,3-cd)pyrene
2,6-Dinitrotoluene	Dibenzo(a,h)anthracene
3-Nitroaniline	Benzo(g,h,i)perylene

* Previously known by the name of bis(2-chlorousipropyl) ether.

Source: Target Compound List for water and soil with low or medium levels of volatile and semivolatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, ARCS V Contractor, September 27, 1991.

Target Compound List (Continued)

Pesticide/PCB

alpha-BHC	4,4-DDT
beta-BHC	Methoxychlor
delta-BHC	Endrin ketone
gamma-BHC (Lindane)	Endrin aldehyde
Heptachlor	alpha-chlordane
Aldrin	gamma-chlordane
Heptachlor epoxide	Toxaphene
Endosulfan I	Aroclor-1016
Dieldrin	Aroclor-1221
4,4-DDE	Aroclor-1232
Endrin	Aroclor-1242
Endosulfan II	Aroclor-1248
4,4-DDD	Aroclor-1254
Endosulfan sulfate	Aroclor-1260

Source: Target Compound List for water and soil containing less than high concentrations of pesticides/aroclors, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, ARCS V Contractor, September 27, 1991.

Target Analyte List

Aluminum	Magnesium
Antimony	Manganese
Arsenic	Mercury
Barium	Nickel
Beryllium	Potassium
Cadmium	Selenium
Calcium	Silver
Chromium	Sodium
Cobalt	Thallium
Copper	Vanadium
Iron	Zinc
Lead	Cyanide

Source: Target Analyte List in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, ARCS V Contractor, September 27, 1991.

Appendix D

Analytical Results

Drum Disposal Area

Appendix D

Contents

Data Qualifiers		
Analysis	Qualifier	Description
Organic	U	Compound was analyzed for but not detected. The associated numerical value is the sample quantitation limit.
	A	Indicates that a TIC is a suspected aldol-condensation product.
	N	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds where the identification is based on a mass spectral library search.
	D	This flag identifies all compounds identified in an analysis at a secondary dilution factor. The flag alerts data users that discrepancies between concentrations reported may be due to dilution of the sample or extract.
	J	An estimated value. This flag is used either when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria, but the result is less than the sample quantitation limit and greater than zero.
	B	Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).
	P	Greater than twenty-five percent difference for detected concentrations.

Data Qualifiers		
Analysis	Qualifier	Description
Inorganic	U	Compound was analyzed for but not detected. The associated numerical value is the sample quantitation limit.
	J	An estimated value.
	S	The reported value was determined by the Method of Standard Additions (MSA).
	B	Reported value is less than the CRDL, but greater than the instrument detection limit (IDL).
	E	The reported value is estimated because of the presence of interference.
	N	Spiked sample recovery is not within control limits.
	W	Post-digestion spike for furnace AA analysis is out of control limits; sample absorbance is less than fifty percent of spike absorbance.

Table D-1
Volatile Organic Analysis for Groundwater Samples
Drum Disposal Area

Volatile Compound	Sample Location and Number Concentrations in µg/L					
	GW01 EWW99 Glacial Drift	GW02 EWW98 Glacial Drift	GW03 EWW97 Glacial Drift	GW06** EWW93 Glacial Drift	GW05 EWW94 Glacial Drift/ Silurian dolomite	GW04** EWW95 Glacial Drift/ Silurian dolomite
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl Chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methylene Chloride	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon Disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U	10 U	10 U	10 U
Total Number of TICs *	0	0	0	0	0	0

gw-volat

* Number, not concentrations,of tentatively identified compounds (TICs) found in each sample.
** Background groundwater sample.

Table D-2
Semivolatile Organic Analysis for Groundwater Samples (Continued)
Drum Disposal Area

Semivolatile Compound	Sample Location and Number Concentrations in µg/L					
	GW01 EWW99 Glacial Drift	GW02 EWW98 Glacial Drift	GW03 EWW97 Glacial Drift	GW06** EWW93 Glacial Drift	GW05 EWW94 Glacial Drift/ Silurian dolomite	GW04** EWW95 Glacial Drift/ Silurian dolomite
Phenol	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso-Di-n-Propylamine	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)Methane	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachlorocyclopentadiene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4,6-Trichlorophenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U	25 U
Dimethyl Phthalate	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
4,6-Dinitro-2-Methylphenol	25 U	25 U	25 U	25 U	25 U	25 U

Table D-2 (Continued)
Semivolatile Organic Analysis for Groundwater Samples (Continued)
Drum Disposal Area

Semivolatile Compound	Sample Location and Number Concentrations in ug/L					
	GW01 EWW99 Glacial Drift	GW02 EWW98 Glacial Drift	GW03 EWW97 Glacial Drift	GW06** EWW93 Glacial Drift	GW05 EWW94 Glacial Drift/ Silurian dolomite	GW04** EWW95 Glacial Drift/ Silurian dolomite
n-Nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
di-n-Butylphthalate	10 U	10 U	10 U	10 U	3 J	1 J
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)Anthracene	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate	2 J	10 U	10 U	4 J	4 J	1 J
di-n-Octyl Phthalate	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)Pyrene	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)Anthracene	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)Perylene	10 U	10 U	10 U	10 U	10 U	10 U
Total Number of TICs *	2	15	10	0	8	16

gw-semiv

* Number, not concentration, of tentatively identified compounds (TICs) found in each sample.
** Background groundwater sample.

Table D-3
Pesticide/PCB Analysis for Groundwater Samples
Drum Disposal Area

Pesticide/ PCB	Sample Location and Number Concentraition in µg/L					
	GW01 EWW99 Glacial Drift	GW02 EWW98 Glacial Drift	GW03 EWW97 Glacial Drift	GW06* EWW93 Glacial Drift	GW05 EWW94 Glacial Drift/ Silurian dolomite	GW04* EWW95 Glacial Drift/ Silurian dolomite
Alpha-BHC	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Beta-BHC	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Delta-BHC	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Gamma-BHC (Lindane)	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Heptachlor	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Aldrin	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Heptachlor Epoxide	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Endolsulfan I	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Dieldrin	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
4,4'-DDE	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
Endrin	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
Endosulfan II	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
4,4'-DDD	0.10 UJ	0.10 UJ	0.025 J	0.20 J	0.48 J	0.10 UJ
Endosulfan Sulfate	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
4,4'-DDT	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
Methoxychlor	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ
Endrin Ketone	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
Endrin Aldehyde	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
Alpha-Chlordane	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Gamma-Chlordane	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ	0.050 UJ
Toxaphene	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
Aroclor-1016	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1221	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Aroclor-1232	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1242	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1248	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1254	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1260	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ

gwpest

* Background groundwater sample.
Shaded area denotes key sample.

Table D-4
Inorganic Analysis for Groundwater Samples
Drum Disposal Area

Metals and Cyanide	Sample Location and Number Concentration in µg/L					
	GW01 MEWZ99 Glacial Drift	GW02 MEWZ98 Glacial Drift	GW03 MEWZ97 Glacial Drift	GW06** MEWZ93 Glacial Drift	GW05 MEWZ94 Glacial Drift/ Silurian dolomite	GW04** MEWZ95 Glacial Drift/ Silurian dolomite
Aluminum	[redacted]	[redacted]	25.0 U	25.0 U	25.0 U	25.0 U
Antimony	26.0 U	26.0 U	26.0 U	26.0 U	26.0 U	26.0 U
Arsenic	1.1 JB	1.6 B	1.0 UJ	1.1 JB	2.9 B	1.3 JB
Barium	67.0 JB	126 JB	30.3 JB	66.7 JB	29.1 JB	23.2 JB
Beryllium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Calcium	128000 J	89200 J	101000 J	121000 J	55800 J	104000 J
Chromium	3.1 B	3.0 U	3.6 B	3.9 JB	3.0 U	3.0 U
Cobalt	4.0 U	[redacted]	4.0 U	4.0 U	4.0 U	4.0 U
Copper	[redacted]	2.0 UJN*	2.0 UJN*	2.0 UJN*	10.6 JBN*	176 JN*
Iron	[redacted]	12.0 U	12.0 U	70.1 UB	12.0 U	32.4 UB
Lead	[redacted]	1.1 JBW	1.0 UJW	1.0 UJW	1.2 JBW	1.0 UJW
Magnesium	65900	39900	50800	56100	40600	45700 J
Manganese	203 J	939 J	19.8 J	55.3 J	13.8 JB	23.9
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	14.0 U	14.0 U	32.6 B	136.0	14.0 U	99.4
Potassium	453 U	1250 B	453 U	968 B	[redacted]	3180 B
Selenium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Sodium	8910 J	7760 J	6390 J	148000 J	50500 J	26900 J
Thallium	1.3 JBW	1.0 UJW	[redacted]	1.0 UJW	1.1 JBW	1.0 UJW
Vanadium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Zinc	37.1 J*	3.5 JB*	3.0 UJ*	3.0 JB*	3.0 UJ*	98.3 J*
Cyanide	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U

gwmetals

** Background groundwater sample.
Shaded area denotes key sample.

Table D-5
Semivolatile Organic Analysis for Groundwater Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/L)
Sample GW01 (EWW99)		
Aliphatic Compound	8.50	85 J
Unknown	27.83	4 J
Sample GW02 (EWW98)		
Unknown	4.25	6 J
Unknown	5.42	3 J
Aliphatic Compound	5.80	600 J
Unknown	7.57	40 J
Aliphatic Compound	8.78	170 J
Unknown	9.68	4 J
Aliphatic Compound	9.78	6 J
Unknown	15.15	11 J
Unknown	21.33	3 J
Unknown	24.40	9 J
Unknown	24.82	8 J
Unknown	25.57	7 J
Unknown	25.87	20 J
Unknown	26.87	25 J
Unknown	27.87	3 J
Sample GW03 (EWW97)		
Unknown	23.78	4 J
Unknown	24.40	10 J
Unknown	24.53	2 J
Unknown	24.63	3 J
Aliphatic Compound	24.82	4 J
Unknown	25.07	10 J
Unknown	25.22	7 J
Unknown	25.40	23 J
Unknown	25.62	25 J
Unknown	25.87	38 J
Sample GW04 (EWW95) Background		
Aliphatic Compound	15.98	6 J
Aliphatic Compound	17.05	6 J
Aliphatic Hydrocarbon	17.12	4 J
Aliphatic Compound	18.07	7 J
Aliphatic Compound	19.03	4 J
Alcohol	19.65	6 J
Aliphatic Compound	20.35	19 J
Unknown	21.28	4 J
Aliphatic Hydrocarbon	22.08	5 J
Unknown	22.42	17 J
Unknown	23.60	5 J
Phenol, 4,4'-Butylidenebis-2	25.03	16 JN
Alcohol	26.92	3 J

Table D-5 (Continued)
Semivolatile Organic Analysis for Groundwater Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/L)
Sample GW04 (EWW95) Background (Continued)		
Unknown	27.92	130 J
Unknown	28.07	9 J
Unknown	29.25	16 J
Sample GW05 (EWW94)		
Aliphatic Compound	14.48	10 J
Alcohol	19.67	24 J
Cyclic Aliphatic Compound	20.33	14 J
Unknown	22.42	3 J
Aliphatic Compound	23.60	18 J
Unknown	25.08	5 J
Alcohol	26.92	5 J
Unknown	29.25	4 J

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Table D-6
Volatile Organic Analysis for Surface Soil Samples
Drum Disposal Area

Volatile Compound	Sample Location and Number Concentrations in µg/kg						
	SS01 EWW80	SS02 EWW79	SS03 EWW78	SS04 EWW77 (Background)	SS05 EWW76	SS06 EWW75	SS07 EWW74
Chloromethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Bromomethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Vinyl Chloride	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Chloroethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Methylene Chloride	[redacted]	13 U	12 U	12 U	14 U	13 U	13 U
Acetone	15 U	14 U	17 U	17 U	18 U	20 U	15 U
Carbon Disulfide	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,1-Dichloroethene	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,1-Dichloroethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,2-Dichloroethene (total)	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Chloroform	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,2-Dichloroethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
2-Butanone	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,1,1-Trichloroethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Carbon Tetrachloride	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Bromodichloromethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,2-Dichloropropane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
cis-1,3-Dichloropropene	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Trichloroethene	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Dibromochloromethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,1,2-Trichloroethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Benzene	12 U	13 U	12 U	12 U	14 U	13 U	13 U
trans-1,3-Dichloropropene	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Bromoform	12 U	13 U	12 U	12 U	14 U	13 U	13 U
4-Methyl-2-Pentanone	12 U	13 U	12 U	12 U	14 U	13 U	13 U
2-Hexanone	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Tetrachloroethene	12 U	13 U	12 U	12 U	14 U	13 U	13 U
1,1,2,2-Tetrachloroethane	12 U	13 U	12 U	12 U	14 U	13 U	13 U
Toluene	12 U	2 J	12 U	12 U	1 J	13 U	13 U
Chlorobenzene	12 U	13 UJ	12 U	12 U	14 U	13 U	13 U
Ethylbenzene	12 U	13 UJ	12 U	12 U	14 U	13 U	13 U
Styrene	12 U	13 UJ	12 U	12 U	14 U	13 U	13 U
Xylene (total)	12 U	13 UJ	12 U	12 U	14 U	13 U	13 U
Total Number of TICs *	0	0	0	0	0	1	0

* Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.
Shaded area denotes key sample.

SS-VOLAT

Table D-7
Semivolatile Organic Analysis for Surface Soil Sample
Drum Disposal Area

Semivolatile Compound	Sample Location and Number Concentrations in µg/kg						
	SS01 EWW80	SS02 EWW79	SS03 EWW78	SS04 EWW77 (Background)	SS05 EWW76	SS06 EWW75	SS07 EWW74
Phenol	410 U	430 U	390 U	400 U	74 J	420 U	420 U
bis(2-Chloroethyl)Ether	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2-Chlorophenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
1,3-Dichlorobenzene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
1,4-Dichlorobenzene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
1,2-Dichlorobenzene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2-Methylphenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2,2'-oxybis(1-Chloropropane)	410 U	430 U	390 U	400 U	450 U	420 U	420 U
4-Methylphenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
n-Nitroso-Di-n-Propylamine	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Hexachloroethane	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Nitrobenzene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Isophorone	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2-Nitrophenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2,4-Dimethylphenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
bis(2-Chloroethoxy)Methane	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2,4-Dichlorophenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
1,2,4-Trichlorobenzene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Naphthalene	410 U	430 U	65 J	400 U	450 U	420 U	420 U
4-Chloroaniline	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Hexachlorobutadiene	410 U	430 U	390 U	400 U	450 UJ	420 U	420 U
4-Chloro-3-Methylphenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2-Methylnaphthalene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Hexachlorocyclopentadiene	410 UJ	430 UJ	390 UJ	400 UJ	450 U	420 UJ	420 UJ
2,4,6-Trichlorophenol	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2,4,5-Trichlorophenol	1000 U	1000 U	940 U	980 U	1100 U	1000 U	1000 U
2-Chloronaphthalene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2-Nitroaniline	1000 U	1000 U	940 U	980 U	1100 U	1000 U	1000 U
Dimethyl Phthalate	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Acenaphthylene	410 U	430 U	210 J	400 U	450 U	420 U	420 U
2,6-Dinitrotoluene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
3-Nitroaniline	1000 UJ	1000 UJ	940 UJ	980 UJ	1100 UJ	1000 UJ	1000 UJ
Acenaphthene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
2,4-Dinitrophenol	1000 UJ	1000 UJ	940 UJ	980 UJ	1100 UJ	1000 UJ	1000 UJ
4-Nitrophenol	1000 U	1000 U	940 U	980 U	1100 U	1000 U	1000 U
Dibenzofuran	410 U	430 U	28 J	400 U	450 U	420 U	420 U
2,4-Dinitrotoluene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Diethylphthalate	410 U	430 U	390 U	400 U	450 U	420 U	420 U
4-Chlorophenyl-phenylether	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Fluorene	410 U	430 U	56 J	400 U	450 U	420 U	420 U

Table D-7 (Continued)
Semivolatile Organic Analysis for Surface Soil Sample
Drum Disposal Area

Semivolatile Compound	Sample Location and Number Concentrations in µg/kg						
	SS01 EWW80	SS02 EWW79	SS03 EWW78	SS04 EWW77 (Background)	SS05 EWW76	SS06 EWW75	SS07 EWW74
4-Nitroaniline	1000 UJ	1000 UJ	940 UJ	980 UJ	1100 UJ	1000 UJ	1000 UJ
4,6-Dinitro-2-Methylphenol	1000 U	1000 U	940 U	980 U	1100 U	1000 U	1000 U
n-Nitrosodiphenylamine	410 UJ	430 UJ	390 UJ	400 UJ	450 UJ	420 UJ	420 UJ
4-Bromophenyl-phenylether	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Hexachlorobenzene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Pentachlorophenol	1000 UJ	1000 UJ	940 UJ	980 UJ	1100 UJ	1000 UJ	1000 UJ
Phenanthrene	410 U	430 U	**1600**	400 U	450 U	420 U	420 U
Anthracene	410 U	430 U	**420**	400 U	450 U	420 U	420 U
Carbazole	410 UJ	430 UJ	190 J	400 UJ	450 UJ	420 UJ	420 UJ
di-n-Butylphthalate	170 J	430 U	390 U	400 U	**640**	240 J	420 U
Fluoranthene	410 U	430 U	**2300**	400 U	450 U	420 U	420 U
Pyrene	410 U	430 U	**2200**	400 U	450 U	420 U	420 U
Butylbenzylphthalate	410 U	430 U	390 U	400 U	450 U	420 U	420 U
3,3'-Dichlorobenzidine	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Benzo(a)Anthracene	410 U	430 U	**930**	400 U	450 U	420 U	420 U
Chrysene	410 U	430 U	**1000**	400 U	450 U	420 U	420 U
bis(2-Ethylhexyl)Phthalate	410 U	430 U	390 U	400 U	450 U	420 U	420 U
di-n-Octyl Phthalate	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Benzo(b)Fluoranthene	410 U	430 U	**1000**	400 U	450 U	420 U	420 U
Benzo(k)Fluoranthene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Benzo(a)Pyrene	410 U	430 U	**460**	400 U	450 U	420 U	420 U
Indeno(1,2,3-cd)Pyrene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Dibenzo(a,h)Anthracene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Benzo(g,h,i)Perylene	410 U	430 U	390 U	400 U	450 U	420 U	420 U
Total Number of TICs *	21	20	20	20	20	20	15

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* Number, not concentration, of tentatively identified compounds (TICs) found in each sample.
Shaded area denotes key sample.

Table D-8
Pesticide/PCB Analysis for Surface Soil Samples
Drum Disposal Area

Pesticide/PCB	Sample Locations and Number Concentrations in µg/kg						
	SS01 EWW80	SS02 EWW79	SS03 EWW78	SS04 EWW77 (Background)	SS05 EWW76	SS06 EWW75	SS07 EWW74
Alpha-BHC	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Beta-BHC	2.1 UJ	2.2 UJ	2.0 UJ	5.3 P	2.3 UJ	2.2 UJ	2.2 UJ
Delta-BHC	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Gamma-BHC (Lindane)	2.1 UJ	2.2 UJ	4.7 PX	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Heptachlor	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Aldrin	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Heptachlor Epoxide	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Endolsulfan I	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Dieldrin	4.0 UJ	4.3 UJ	3.9 UJ	4.0 UJ	4.5 UJ	4.2 UJ	4.2 UJ
4,4'-DDE	4.0 UJ	4.3 UJ	3.9 UJ	14	4.5 UJ	4.2 UJ	4.2 UJ
Endrin	4.0 UJ	4.3 UJ	3.9 UJ	4.0 UJ	4.5 UJ	4.2 UJ	4.2 UJ
Endosulfan II	4.0 UJ	4.3 UJ	3.9 UJ	4.0 UJ	4.5 UJ	4.2 UJ	4.2 UJ
4,4'-DDD	4.0 UJ	4.3 UJ	3.9 UJ	3.4 J	4.5 UJ	4.2 UJ	4.2 UJ
Endosulfan Sulfate	4.0 UJ	4.3 UJ	3.9 UJ	4.0 UJ	4.5 UJ	4.2 UJ	4.2 UJ
4,4'-DDT	4.0 UJ	4.3 UJ	3.9 UJ	5.8	4.5 UJ	4.2 UJ	4.2 UJ
Methoxychlor	21 UJ	22 UJ	20 UJ	21 UJ	23 UJ	22 UJ	22 UJ
Endrin Ketone	4.0 UJ	4.3 UJ	3.9 UJ	4.0 UJ	4.5 UJ	4.2 UJ	4.2 UJ
Endrin Aldehyde	4.0 UJ	4.3 UJ	3.9 UJ	4.0 UJ	4.5 UJ	4.2 UJ	4.2 UJ
Alpha-Chlordane	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Gamma-Chlordane	2.1 UJ	2.2 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.2 UJ
Toxaphene	210 UJ	220 UJ	200 UJ	210 UJ	230 UJ	220 UJ	220 UJ
Aroclor-1016	40 UJ	43 UJ	39 UJ	40 UJ	45 UJ	42 UJ	42 UJ
Aroclor-1221	82 UJ	87 UJ	79 UJ	82 UJ	91 UJ	86 UJ	85 UJ
Aroclor-1232	40 UJ	43 UJ	39 UJ	40 UJ	45 UJ	42 UJ	42 UJ
Aroclor-1242	40 UJ	43 UJ	39 UJ	40 UJ	45 UJ	42 UJ	42 UJ
Aroclor-1248	40 UJ	43 UJ	39 UJ	40 UJ	45 UJ	42 UJ	42 UJ
Aroclor-1254	40 UJ	43 UJ	39 UJ	40 UJ	45 UJ	42 UJ	42 UJ
Aroclor-1260	40 UJ	43 UJ	39 UJ	40 UJ	45 UJ	42 UJ	42 UJ

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Shaded area denotes key sample.

Table D-9
Inorganic Analysis for Surface Soil Samples
Drum Disposal Area

Metals and Cyanide	Sample Location and Number Concentrations in mg/kg						
	SS01 MEWZ80	SS02 MEWZ79	SS03 MEWZ78	SS04 MEWZ77 (Background)	SS05 MEWZ76	SS06 MEWZ75	SS07 MEWZ74
Aluminum	11800	9290	5730	11600	65100	11600	13000
Antimony	8.6 UJN	9.1 UJN	8.6 UJN	8.6 UJN	13.4 JBN	8.7 UJN	8.9 UJN
Arsenic	16.6	8.4	2.9	8.8	**28.9**	14.5	7.7
Barium	56.0	121	93.2	101	**6930**	91.7	121
Beryllium	0.80 B	0.75 B	**1.0 B**	0.83 B	**3.4 J**	**0.96 B**	**1.0 B**
Cadmium	0.66 U	0.70 U	0.66 U	0.66 U	**1.0 B**	0.67 U	0.69 U
Calcium	2800	1440	**129000**	2050	**91100**	3480	3560
Chromium	18.4	13.4	5.0	17.6	32.8	19.0	18.6
Cobalt	12.9	11.3 B	1.9 B	13.1	22.2	12.1 B	16.7
Copper	33.4	16.9	9.2 J	20.2 J	**129**	24.4	20.6
Iron	31100	18400	5430	21400 J	36500	30500	24500
Lead	29.5	27.2 S	10.7	27.7	36.3	27.8	16.5 S
Magnesium	3790	1840	**47700**	2890 J	**12900**	3020	3960
Manganese	734	867	416	798 J	307	872	1180
Mercury	**0.08 B**	0.06 U	0.06 U	0.06 U	0.07 U	0.06 U	0.06 U
Nickel	**28.2**	17 J	4.4 UB	21.4 U	**29.3 J**	21.5 U	**30.1**
Potassium	1590 U	1260 UB	531 U	1520 U	1940 U	1270 U	1110 UB
Selenium	0.20 UJW	0.42 JBW	0.98 U	0.42 JBW	**4.5 B**	0.37 B	0.20 U
Silver	0.83 U	0.88 U	0.83 U	0.83 U	0.90 U	0.84 U	0.86 U
Sodium	102 JB	54.3 UB	261 JB	65.2 UB	**17900 J**	111 JB	74.9 UB
Thallium	0.43 JBW	0.23 UJW	0.30 JBW	0.29 B	1.4 JBW	0.32 JBW	0.38 B
Vanadium	25.9	23.2 J	11.7 J	25.8 J	**134 J**	28.1 J	31.9 J
Zinc	66.6 JE	56.8 JE	20.1 JE	58.3 JE	71.0 JE	65.7 JE	55.9 JE
Cyanide	0.15 B	0.28 B	0.06 U	0.14 B	0.09 B	0.06 U	0.06 U

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Shaded area denotes key sample.

Table D-10
Volatile Organic Analysis for Surface Soil Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/kg)
Sample SS06 (EWW75)		
Unknown	2.62	6 J

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Table D-11
Semivolatile Organic Analysis for Surface Soil Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/kg)
Sample SS01 (EWW80)		
Unknown Alkane	4.62	130 J
Unknown	4.80	720 J
5,5-Dimethyl-2(5H)-Furanone	5.68	100 JN
Unknown	6.92	130 J
Unknown	18.65	95 J
Unknown Siloxane	19.07	110 JB
Unknown Siloxane	21.23	140 JB
Hexadeanoic Acid	22.93	130 JN
Unknown Siloxane	23.20	140 JB
Unknown Siloxane	25.02	190 JB
Unknown Alkane	25.72	220 J
Unknown Siloxane	26.68	190 JB
Unknown Alkane	26.83	530 J
Unknown Alkane	27.93	780 J
Unknown Alkane	29.02	750 J
Unknown Siloxane	29.85	240 JB
Unknown Alkane	30.10	570 J
Unknown Alkane	31.23	1400 J
Unknown Siloxane	31.50	540 JB
Unknown Alkane	32.43	510 J
Unknown Alkane	33.83	420 J
Sample SS02 (EWW79)		
Unknown	4.80	720 J
Unknown	5.70	140 J
Unknown	6.93	280 J
Unknown Siloxane	21.25	140 JB
Unknown Organic Acid	22.97	290 J
Unknown Siloxane	23.22	150 JB
Unknown Siloxane	25.05	300 JB
Unknown Siloxane	26.70	290 JB
Unknown Alkane	26.83	190 J
Unknown Alkane	27.93	280 J
Unknown Alkane	29.02	330 J
Unknown Siloxane	29.85	320 JB
Unknown Alkane	30.10	210 J
Unknown Alkane	31.23	1000 J
Unknown Siloxane	31.50	1000 JB
Unknown Alkane	32.45	250 J
Unknown Siloxane	33.43	250 JB
Unknown Alkane	33.90	700 J
Unknown	37.42	580 J
Unknown	37.48	600 J

Table D-11 (Continued)
Semivolatile Organic Analysis for Surface Soil Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/kg)
Sample SS03 (EWW78)		
Unknown	4.80	680 J
Unknown	6.95	230 J
Unknown Alkane	19.47	180 J
Unknown Alkane	19.55	110 J
Unknown Alkane	20.83	150 J
Unknown Alkane	22.15	290 J
Unknown	22.83	180 J
Unknown Alkane	23.40	140 J
Unknown Polynuclear Aromatic	24.23	130 J
Benzo(B)Naphthao(2,2-D)Fura	24.67	170 JN
Unknown Siloxane	25.05	280 JB
Unknown Alkane	25.73	280 J
Unknown Polynuclear Aromatic	25.92	200 J
Unknown Siloxane	26.72	2500 JB
Unknown Alkane	26.87	3100 J
Unknown Polynuclear Aromatic	27.67	2100 J
Unknown Alkane	27.97	4200 J
Unknown Alkane	29.07	4800 J
Unknown Siloxane	29.88	2900 JB
Unknown Alkane	30.17	3100 J
Sample SS04 (EWW77) Background		
Unknown	4.60	96 J
Unknown	4.77	580 J
Unknown	6.92	150 J
Unknown Siloxane	19.07	130 JB
Unknown Siloxane	21.25	160 JB
Unknown Organic Acid	22.93	190 J
Unknown Siloxane	23.22	160 JB
Unknown Siloxane	25.03	210 JB
Unknown Alkane	25.72	130 J
Unknown Siloxane	26.70	230 JB
Unknown Alkane	26.83	330 J
Unknown Alkane	27.93	540 J
Unknown Alkane	29.02	570 J
Unknown Siloxane	29.85	270 JB
Unknown Alkane	30.10	410 J
Unknown Alkane	31.23	1500 J
Unknown Siloxane	31.52	690 JB
Unknown Alkane	32.42	470 J
Unknown Alkane	33.90	1100 J
Unknown	37.27	270 J

Table D-11 (Continued)
Semivolatile Organic Analysis for Surface Soil Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/kg)
Sample SS05 (EWW76)		
Unknown	4.77	520 J
Unknown	15.53	290 J
Unknown	16.12	370 J
Unknown	22.68	380 J
Unknown	23.23	1600 JB
Unknown	23.58	280 J
7-Butyl-1-Hexylnaphthalene	24.53	310 JN
Unknown	24.87	480 J
Unknown Siloxane	25.05	310 JB
Unknown Alkane	25.73	400 J
Tetramethyl Phenathrene Isom	25.80	450 J
Unknown Siloxane	26.72	320 JB
Unknown Alkane	26.85	740 J
Unknown Alkane	27.95	980 J
Unknown	28.95	460 J
Unknown Alkane	29.03	1000 J
Unknown	29.22	350 J
Unknown Siloxane	29.87	330 JB
Unknown Alkane	30.13	690 J
Unknown Alkane	31.27	3600 J
Sample SS06 (EWW75)		
Unknown	4.80	750 J
Unknown	5.18	87 J
Unknown	5.70	88 J
Unknown	6.93	240 J
Unknown Siloxane	19.08	120 JB
Unknown Siloxane	21.27	170 JB
Unknown Organic Acid	22.97	220 J
Unknown Siloxane	23.22	150 JB
Unknown Siloxane	25.05	250 JB
Unknown	25.22	500 J
Unknown Siloxane	26.70	230 JB
Unknown	28.92	170 J
Unknown Alkane	29.02	91 J
Unknown Siloxane	29.87	260 JB
Unknown Alkane	31.20	490 J
Unknown Siloxane	31.52	660 JB
Unknown	32.87	190 J
Unknown Siloxane	33.43	150 JB
Unknown	33.88	690 J
Unknown	37.40	530 J

Table D-11 (Continued)
Semivolatile Organic Analysis for Surface Soil Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/kg)
Sample SS07 (EWW74)		
Unknown	4.78	710 J
Unknown	6.23	130 J
Unknown	6.92	130 J
Unknown Siloxane	19.08	120 JB
Unknown Siloxane	21.27	160 JB
Unknown Organic Acid	22.93	110 J
Unknown Siloxane	23.22	150 JB
Unknown Siloxane	25.05	260 J
Unknown Siloxane	26.72	230 JB
Unknown Siloxane	29.87	260 JB
Unknown Siloxane	31.50	620 JB
Unknown	32.15	90 J
Unknown	33.37	150 JB
Unknown	33.75	100 J
Unknown	37.20	250 J

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Table D-12
Volatile Organic Analysis for Surface Water Samples
Drum Disposal Area

Volatile Compound	Sample Locations and Number Concentrations in µg/L		
	SW01 EWW90 (Background)	SW02 EWW89	SW03 EWW87
Chloromethane	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U
Acetone	10 UJ	10 UJ	10 UJ
Carbon Disulfide	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U
1,1,1-Trichloroethane	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U
Benzene	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U
Toluene	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U
Styrene	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U
Total Number of TICs *	0	0	0

* Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

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Table D-13 Semivolatile Organic Analysis for Surface Water Samples Drum Disposal Area			
	Sample Location and Number Concentrations in µg/L		
Semivolatile Compound	SW01 Background EWW90	SW02 EWW89	SW03 EWW87
Phenol	10 U	10 U	10 U
bis(2-Chloroethyl)Ether	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U
n-Nitroso-Di-n-Propylamine	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U
bis(2-Chloroethoxy)Methane	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 UJ	10 U
2-Methylnaphthalene	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U
Dimethyl Phthalate	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U
2,4-Dinitrophenol	25 UJ	25 UJ	25 UJ
4-Nitrophenol	25 U	25 UJ	25 U
Dibenzofuran	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U

Table D-13 (Continued)
Semivolatile Organic Analysis for Surface Water Samples
Drum Disposal Area

Semivolatile Compound	Sample Location and Number Concentrations in µg/L		
	SW01 Background EWW90	SW02 EWW89	SW03 EWW87
4-Nitroaniline	25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol	25 U	25 U	25 U
n-Nitrosodiphenylamine	10 UJ	10 UJ	10 UJ
4-Bromophenyl-phenylether	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Pentachlorophenol	25 UJ	25 UJ	25 UJ
Phenanthrene	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U
di-n-Butylphthalate	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U
Benzo(a)Anthracene	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate	10 U	10 U	10 U
di-n-Octyl Phthalate	10 U	10 U	10 U
Benzo(b)Fluoranthene	10 U	10 U	10 U
Benzo(k)Fluoranthene	10 U	10 U	10 U
Benzo(a)Pyrene	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene	10 U	10 U	10 U
Dibenzo(a,h)Anthracene	10 U	10 U	10 U
Benzo(g,h,i)Perylene	10 U	10 U	10 U
Total Number of TICs *	9	7	7

* Number, not concentration, of tentatively identified compounds (TICs) found in each sample.

sw-semiv

Table D-14 Pesticide/PCB Analysis for Surface Water Samples Drum Disposal Area			
	Sample Location and Number Concentrations in µg/L		
Pesticide/PCB	SW01 EWW90 (Background)	SW02 EWW89	SW03 EWW87
Alpha-BHC	0.050 UJ	0.050 UJ	0.050 UJ
Beta-BHC	0.050 UJ	0.050 UJ	0.050 UJ
Delta-BHC	0.050 UJ	0.050 UJ	0.050 UJ
Gamma-BHC (Lindane)	0.050 UJ	0.050 UJ	0.050 UJ
Heptachlor	0.050 UJ	0.050 UJ	0.050 UJ
Aldrin	0.050 UJ	0.050 UJ	0.050 UJ
Heptachlor Epoxide	0.050 UJ	0.050 UJ	0.050 UJ
Endolsulfan I	0.050 UJ	0.050 UJ	0.050 UJ
Dieldrin	0.10 UJ	0.10 UJ	0.10 UJ
4,4'-DDE	0.10 UJ	0.10 UJ	0.10 UJ
Endrin	0.10 UJ	0.10 UJ	0.10 UJ
Endosulfan II	0.10 UJ	0.10 UJ	0.10 UJ
4,4'-DDD	0.10 UJ	0.10 UJ	0.10 UJ
Endosulfan Sulfate	0.10 UJ	0.10 UJ	0.10 UJ
4,4'-DDT	0.10 UJ	0.10 UJ	0.10 UJ
Methoxychlor	0.50 UJ	0.50 UJ	0.50 UJ
Endrin Ketone	0.10 UJ	0.10 UJ	0.10 UJ
Endrin Aldehyde	0.10 UJ	0.10 UJ	0.10 UJ
Alpha-Chlordane	0.050 UJ	0.050 UJ	0.050 UJ
Gamma-Chlordane	0.050 UJ	0.050 UJ	0.050 UJ
Toxaphene	5.0 UJ	5.0 UJ	5.0 UJ
Aroclor-1016	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1221	2.0 UJ	2.0 UJ	2.0 UJ
Aroclor-1232	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1242	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1248	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1254	1.0 UJ	1.0 UJ	1.0 UJ
Aroclor-1260	1.0 UJ	1.0 UJ	1.0 UJ

swpest

Table D-15 Inorganic Analysis for Surface Water Samples Drum Disposal Area			
Metals and Cyanide	Sample Location and Number Concentrations in µg/L		
	SW01 MEWZ90 (Background)	SW02 MEWZ89	SW03 MEWZ87
Aluminum	636 U	620 U	2000 J
Antimony	35.2 U	35.2 U	35.2 U
Arsenic	1.3 U	1.3 U	1.4 JBW
Barium	40.5 JBE	42.4 JBE	48.9 JBE
Beryllium	2.4 U	2.4 U	2.4 U
Cadmium	2.7 U	2.7 U	2.7 U
Calcium	76800 J	78400 J	81400 J
Chromium	3.0 U	3.0 U	3.0 U
Cobalt	3.8 U	3.8 U	3.8 U
Copper	18.0 JB	21.7 JB	19.0 JB
Iron	659 JE	722 JE	2810 JE
Lead	3.5 JN	1.2 JBN	3.3 JNW
Magnesium	41800 J	42500 J	42800 J
Manganese	103 J	33.0 J	147 J
Mercury	0.10 U	0.10 U	0.10 U
Nickel	17.8 U	17.8 U	17.8 U
Potassium	1590 B	1590 B	3850 B
Selenium	0.80 UJNW	0.80 UJNW	0.80 UJNW
Silver	3.4 U	3.4 U	3.4 U
Sodium	10200 J	14400 J	39200
Thallium	0.90 U	0.90 U	4.5 UJW
Vanadium	24.2 JB	26.8 JB	25.7 JB
Zinc	15.1 JB*	17.5 JB*	20.0 JB*
Cyanide	0.50 U	0.50 U	0.50 U

Shaded area denotes key sample. swmetals

Table D-16
Semivolatile Organic Analysis for Surface Water Samples
Tentatively Identified Compounds
Drum Disposal Area
Concentrations in µg/L

Compound Name	Retention Time	Estimated Concentration
Sample SW01 (EWW90) Background		
Unknown Siloxane	19.08	4 JB
Unknown Siloxane	21.28	4 JB
Unknown Siloxane	23.25	4 JB
Unknown Siloxane	25.08	4 JB
1,1'-Sulfonylbis[4-Chorobenz	26.03	29 JN
Unknown Siloxane	26.78	4 JB
Unknown Siloxane	28.48	3 JB
Triphenylphosphine Oxide	29.22	11 JN
Diphenyl(Phenylmethyl)Phosph	29.95	2 JN
Sample SW02 (EWW89)		
Unknown Siloxane	16.57	2 J
Unknown Siloxane	19.08	4 JB
Unknown Siloxane	21.27	5 JB
Unknown Siloxane	23.23	5 JB
Unknown Siloxane	25.07	6 JB
Unknown Siloxane	26.78	5 JB
Unknown Siloxane	28.47	4 JB
Sample SW03 (EWW87)		
Unknown Siloxane	16.57	2 J
Unknown Siloxane	19.07	3 JB
Unknown Siloxane	21.27	3 JB
Unknown Siloxane	23.23	3 JB
Unknown Siloxane	25.07	4 JB
Unknown Siloxane	26.78	4 JB
Unknown Siloxane	28.47	4 JB

tic-sw

Table D-17
Volatile Organic Analysis for Sediment Samples
Drum Disposal Area

Volatile Compound	Sample Location and Number Concentration in µg/kg			
	ST01 EWW84RE (Background)	ST02 EWW83	ST03 EWW82	ST04 EWW81
Chloromethane	16 UJ	20 UJ	16 UJ	15 UJ
Bromomethane	16 U	20 U	16 U	15 UJ
Vinyl Chloride	16 U	20 U	16 U	15 UJ
Chloroethane	16 U	20 U	16 U	15 UJ
Methylene Chloride	16 U	20 U	16 U	15 UJ
Acetone	16 UJ	20 UJ	16 UJ	15 UJ
Carbon Disulfide	16 U	20 U	16 U	15 UJ
1,1-Dichloroethene	16 U	20 U	16 U	15 UJ
1,1-Dichloroethane	16 U	20 U	16 U	15 UJ
1,2-Dichloroethene (total)	16 U	20 U	16 U	15 UJ
Chloroform	16 U	20 U	16 U	15 UJ
1,2-Dichloroethane	16 U	20 U	16 U	15 UJ
2-Butanone	16 UJ	20 UJ	16 UJ	15 UJ
1,1,1-Trichloroethane	16 U	20 U	16 U	15 UJ
Carbon Tetrachloride	16 U	20 U	16 U	15 UJ
Bromodichloromethane	16 U	20 U	16 U	15 UJ
1,2-Dichloropropane	16 U	20 U	16 U	15 UJ
cis-1,3-Dichloropropene	16 U	20 U	16 U	15 UJ
Trichloroethene	16 U	20 U	16 U	15 UJ
Dibromochloromethane	16 U	20 U	16 U	15 UJ
1,1,2-Trichloroethane	16 U	20 U	16 U	15 UJ
Benzene	16 U	20 U	16 U	15 UJ
trans-1,3-Dichloropropene	16 U	20 U	16 U	15 UJ
Bromoform	16 U	20 U	16 U	15 UJ
4-Methyl-2-Pentanone	16 UJ	20 UJ	16 UJ	15 UJ
2-Hexanone	16 UJ	20 UJ	16 UJ	15 UJ
Tetrachloroethene	16 U	20 U	7 J	6 UJ
1,1,2,2-Tetrachloroethane	16 U	20 U	16 U	15 UJ
Toluene	16 U	20 U	16 U	15 UJ
Chlorobenzene	16 U	20 U	16 U	15 UJ
Ethylbenzene	16 U	20 U	16 U	15 UJ
Styrene	16 U	20 U	16 U	15 UJ
Xylene (total)	16 U	20 U	16 U	15 UJ
Total Number of TICs *	0	0	0	0

* Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

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Table D-18
Semivolatile Organic Analysis for Sediment Samples
Drum Disposal Area

Semivolatile Compound	Sample Location and Number Concentrations in µg/kg			
	ST01 EWW84 (Background)	ST02 EWW83RE	ST03 EWW82	ST04 EWW81RE
Phenol	520 U	660 U	520 U	510 U
bis(2-Chloroethyl)Ether	520 U	660 U	520 U	510 U
2-Chlorophenol	520 U	660 U	520 U	510 U
1,3-Dichlorobenzene	520 U	660 U	520 U	510 U
1,4-Dichlorobenzene	520 U	660 U	520 U	510 U
1,2-Dichlorobenzene	520 U	660 U	520 U	510 U
2-Methylphenol	520 U	660 U	520 U	510 U
2,2'-oxybis(1-Chloropropane)	520 UJ	660 U	520 UJ	510 U
4-Methylphenol	520 U	660 U	520 U	510 U
n-Nitroso-Di-n-Propylamine	520 U	660 U	520 U	510 U
Hexachloroethane	520 U	660 U	520 U	510 U
Nitrobenzene	520 U	660 UJ	520 U	510 UJ
Isophorone	520 U	660 U	520 U	510 U
2-Nitrophenol	520 U	660 U	520 U	510 U
2,4-Dimethylphenol	520 U	660 U	520 U	510 U
bis(2-Chloroethoxy)Methane	520 U	660 U	520 U	510 U
2,4-Dichlorophenol	520 U	660 U	520 U	510 U
1,2,4-Trichlorobenzene	520 U	660 U	520 U	510 U
Naphthalene	520 U	660 U	520 U	44 J
4-Chloroaniline	520 UJ	660 U	520 UJ	510 U
Hexachlorobutadiene	520 U	660 U	520 U	510 U
4-Chloro-3-Methylphenol	520 U	660 U	520 U	510 U
2-Methylnaphthalene	520 U	660 UJ	520 U	510 UJ
Hexachlorocyclopentadiene	520 U	660 UJ	520 U	510 UJ
2,4,6-Trichlorophenol	520 U	660 U	520 U	510 U
2,4,5-Trichlorophenol	1200 U	1600 U	1200 U	1200 U
2-Chloronaphthalene	520 U	660 U	520 U	510 U
2-Nitroaniline	1200 U	1600 U	1200 U	1200 U
Dimethyl Phthalate	520 U	660 U	520 U	510 U
Acenaphthylene	520 U	660 U	520 U	510 U
2,6-Dinitrotoluene	520 U	660 U	520 U	510 U
3-Nitroaniline	1200 U	1600 U	1200 U	1200 U
Acenaphthene	520 U	660 U	520 U	510 U
2,4-Dinitrophenol	1200 U	1600 UJ	1200 U	1200 UJ
4-Nitrophenol	1200 U	1600 UJ	1200 U	1200 UJ
Dibenzofuran	520 U	660 U	520 U	510 U
2,4-Dinitrotoluene	520 U	660 U	520 U	510 U
Diethylphthalate	520 U	660 UJ	520 U	510 UJ
4-Chlorophenyl-phenylether	520 U	660 U	520 U	510 U
Fluorene	520 U	660 U	520 U	510 U

Table D-18 (Continued)
Semivolatile Organic Analysis for Sediment Samples
Drum Disposal Area

Semivolatile Compound	Sample Location and Number Concentrations in µg/kg			
	ST01 EWW84 (Background)	ST02 EWW83RE	ST03 EWW82	ST04 EWW81RE
4-Nitroaniline	1200 U	1600 UJ	1200 UJ	1200 UJ
4,6-Dinitro-2-Methylphenol	1200 U	1600 U	1200 U	1200 U
n-Nitrosodiphenylamine	520 U	660 U	520 U	510 U
4-Bromophenyl-phenylether	520 U	660 U	520 U	510 U
Hexachlorobenzene	520 U	660 UJ	520 U	510 UJ
Pentachlorophenol	1200 U	1600 U	1200 U	1200 U
Phenanthrene	520 U	660 U	520 U	53 J
Anthracene	520 U	660 U	520 U	510 U
Carbazole	520 U	660 U	520 U	510 U
di-n-Butylphthalate	520 U	660 U	520 U	510 U
Fluoranthene	520 U	59 J	520 U	510 U
Pyrene	520 UJ	660 UJ	520 UJ	510 U
Butylbenzylphthalate	520 U	660 UJ	520 U	510 UJ
3,3'-Dichlorobenzidine	520 UJ	660 U	520 UJ	510 U
Benzo(a)Anthracene	520 U	660 U	520 U	510 U
Chrysene	520 U	660 U	520 U	510 U
bis(2-Ethylhexyl)Phthalate	520 U	660 UJ	520 U	510 UJ
di-n-Octyl Phthalate	520 U	660 UJ	520 U	510 UJ
Benzo(b)Fluoranthene	520 U	660 U	520 U	510 U
Benzo(k)Fluoranthene	520 U	660 U	520 U	510 U
Benzo(a)Pyrene	520 U	660 U	520 U	510 U
Indeno(1,2,3-cd)Pyrene	520 U	660 U	520 U	510 U
Dibenzo(a,h)Anthracene	520 U	660 U	520 U	510 U
Benzo(g,h,i)Perylene	520 U	660 U	520 U	510 U
Total Number of TICs *	0	1	0	1

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* Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

Table D-19 Pesticide/PCB Analysis for Sediment Samples Drum Disposal Area				
Pesticide/ PCB	Sample Location and Number Concentrations in µg/kg			
	ST01 EWW84 (Background)	ST02 EWW83	ST03 EWW82	ST04 EWW81
Alpha-BHC	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Beta-BHC	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Delta-BHC	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Gamma-BHC (Lindane)	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Heptachlor	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Aldrin	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Heptachlor Epoxide	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Endosulfan I	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Dieldrin	5.2 U	6.7 UJ	5.2 UJ	5.1 U
4,4'-DDE	5.2 U	6.7 UJ	5.2 UJ	5.1 U
Endrin	5.2 U	6.7 UJ	5.2 UJ	5.1 U
Endosulfan II	5.2 U	6.7 UJ	5.2 UJ	5.1 U
4,4'-DDD	5.2 U	6.7 UJ	5.2 UJ	5.1 U
Endosulfan Sulfate	5.2 U	6.7 UJ	5.2 UJ	5.1 U
4,4'-DDT	5.2 U	6.7 UJ	5.2 UJ	5.1 U
Methoxychlor	27 U	35 UJ	27 UJ	26 U
Endrin Ketone	5.2 U	6.7 UJ	5.2 UJ	5.1 U
Endrin Aldehyde	5.2 U	6.7 UJ	5.2 UJ	5.1 U
Alpha-Chlordane	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Gamma-Chlordane	2.7 U	3.5 UJ	2.7 UJ	2.6 U
Toxaphene	270 U	350 UJ	270 UJ	260 U
Aroclor-1016	52 U	67 UJ	52 UJ	51 U
Aroclor-1221	100 U	140 UJ	100 UJ	100 U
Aroclor-1232	52 U	67 UJ	52 UJ	51 U
Aroclor-1242	52 U	67 UJ	52 UJ	51 U
Aroclor-1248	52 U	67 UJ	52 UJ	51 U
Aroclor-1254	52 U	67 UJ	52 UJ	51 U
Aroclor-1260	52 U	67 UJ	52 UJ	51 U

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Table D-20 Inorganic Analysis for Sediment Samples Drum Disposal Area				
Metals and Cyanide	Sample Location and Number Concentrations in mg/kg			
	ST01 MEWZ84 Background	ST02 MEWZ83	ST03 MEWZ82	ST04 MEWZ81
Aluminum	15800	22100	13700	7000
Antimony	9.4 UJN	9.9 UJN	8.2 UJN	9.9 UJN
Arsenic	6.1 JNS	10.5 JNS	10.9 JNS	3.0 JBN
Barium	114	123	87.1	**352**
Beryllium	0.87 B	1.2 B	0.83 B	0.38 U
Cadmium	0.72 U	**0.82 B**	0.71 B	0.76 U
Calcium	6790	6380	10700	11200
Chromium	20.6	28.6	18.3	18.8
Cobalt	11.2 B	12.3 B	10.3 B	4.6 B
Copper	22.0 JE	67.4 JE	23.1 JE	15.1 JE
Iron	25800	29400	26000	7910
Lead	34.1 S	61.3 S	40.7 S	52.7 S
Magnesium	5710	6000	7880	**22900**
Manganese	578	358	581	279
Mercury	0.18 U	0.19 U	0.16 U	0.19 U
Nickel	23.2	29.2	27.0	6.1 B
Potassium	2380	3380	1950	3250
Selenium	0.72 B	0.84 B	0.69 B	0.38 UJW
Silver	0.72 U	0.76 U	0.63 U	0.76 U
Sodium	109 B	195 B	99.3 B	**401 B**
Thallium	0.53 B	0.68 JB	0.35 B	0.38 U
Vanadium	32.8	40.2	28.5	10.1 B
Zinc	85.2	149	94.4	47.6
Cyanide	0.91 U	0.95 U	0.79 U	0.95 U

sedmetal

Shaded areas denotes key sample.

Table D-21
Semivolatile Organic Analysis for Sediment Samples
Tentatively Identified Compounds
Drum Disposal Area

Compound Name	Retention Time	Estimated Concentration (µg/kg)
Sample ST02 (EWW83)		
Unknown	5.78	320 J
Sample ST04 (EWW81RE)		
Unknown	4.38	320 J

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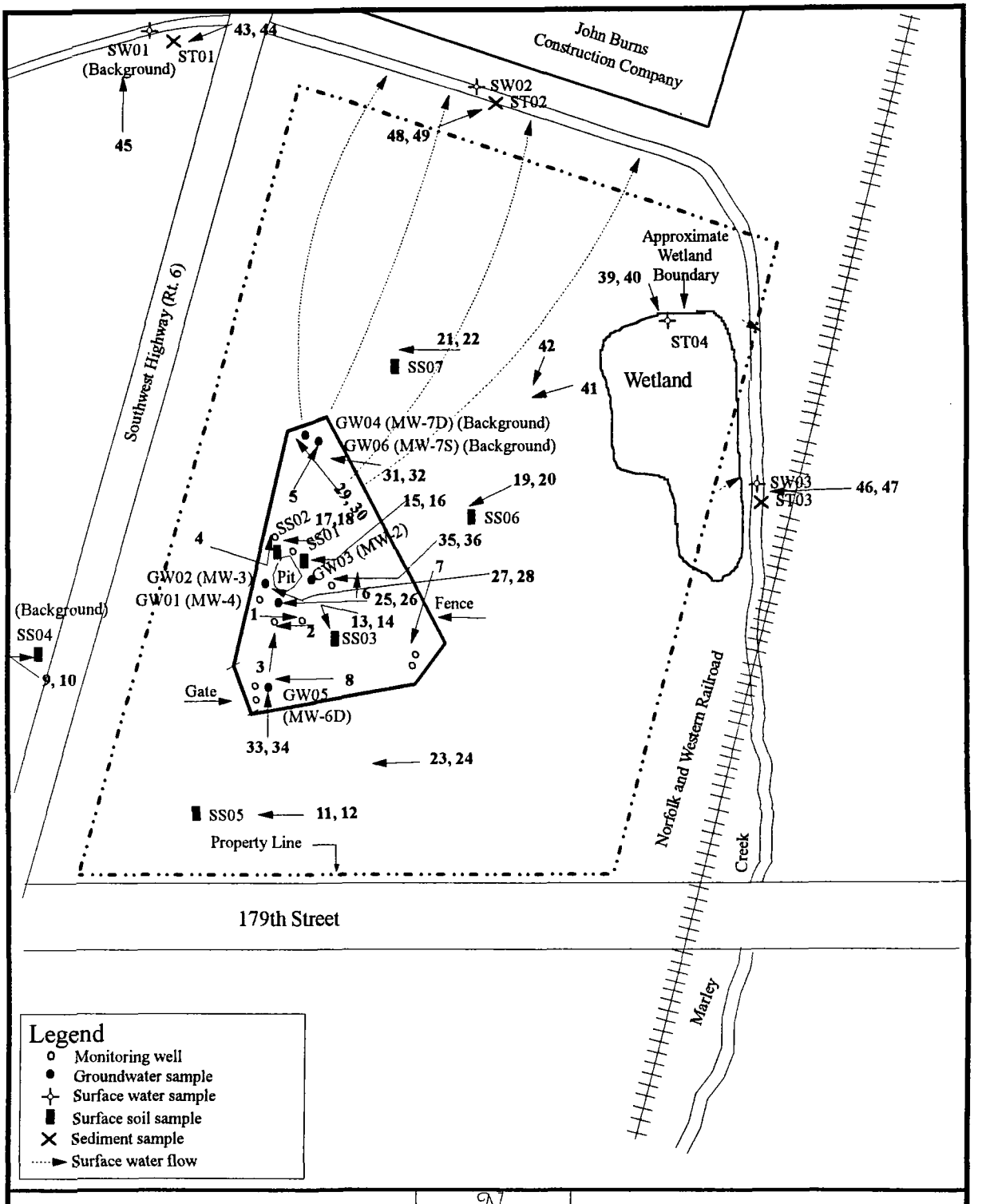
Appendix E

Site Photographs

Drum Disposal Area



Source:
Prairie Environmental Specialists, Inc. 1992

Scale:
Not to scale

N

Figure E-1
Photo Location Map

Drum Disposal Area
Orland Park, Illinois

FRE00074

Date: 7-1-93

Time: 1042

Photo Taken By: John Quinn

Photo Number: 1

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 791 681

Direction of Photo: East

Description: Photo showing MW-8 and empty drums for ppe.

Date: 7-1-93

Time: 1043

Photo Taken By: John Quinn

Photo Number: 2

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 791 681

Direction of Photo: West

Description: Photo showing two 55-gallon drums containing well development water.

Date: 7-1-93

Time: 1045

Photo Taken By: John Quinn

Photo Number: 3

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 781 681

Direction of Photo: North

Description: Photo shows Drum Disposal area and surrounding monitoring wells.

Date: 7-1-93

Time: 1048

Photo Taken By: John Quinn

Photo Number: 4

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 791 681

Direction of Photo: North

Description: Photo shows MW-10 with two drums containing well development water.

Date: 7-1-93

Time: 1053

Photo Taken By: John Quinn

Photo Number: 5

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 791 681

Direction of Photo: North

Description: Photo shows monitoring well nest.

Date: 7-1-93

Time: 1055

Photo Taken By: John Quinn

Photo Number: 6

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 791 681

Direction of Photo: North

Description: Photo shows concrete debris, metal sheets, and an old tank.

Date: 7-1-93

Time: 1105

Photo Taken By: John Quinn

Photo Number: 7

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 791 681

Direction of Photo: Southwest

Description: Photo shows monitoring wells 5S and 5D.

Date: 7-1-93

Time: 1112

Photo Taken By: John Quinn

Photo Number: 8

Location/ILD #: Drum Disposal - SSI Reconnaissance, ILD 984 791 681

Direction of Photo: West

Description: Photo shows the entrance gate.

Date: 11-16-93

Time: 0958

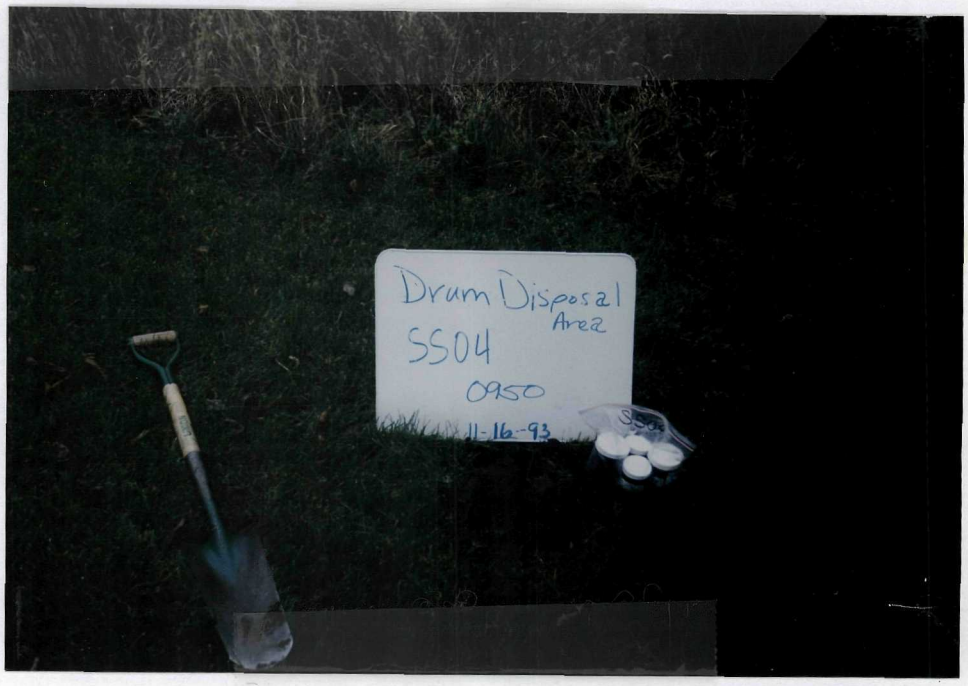
Photo Taken By: Mitchell P. Balek

Photo Number: 9

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: East

Description: A close-up of sample SS04 location. Soil is dark brown to black clayey topsoil.



Date: 11-16-93

Time: 0959

Photo Taken By: Mitchell P. Balek

Photo Number: 10

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: East

Description: Further view of sample SS04 location.

Date: 11-16-93

Time: 1025

Photo Taken By: Mitchell P. Balek

Photo Number: 11

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: A close-up of sample SS05 location. Soil is dark brown sandy gravel.

Date: 11-16-93

Time: 1025

Photo Taken By: Mitchell P. Balek

Photo Number: 12

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Further view of sample SS05 location.

Date: 11-16-93

Time: 1050

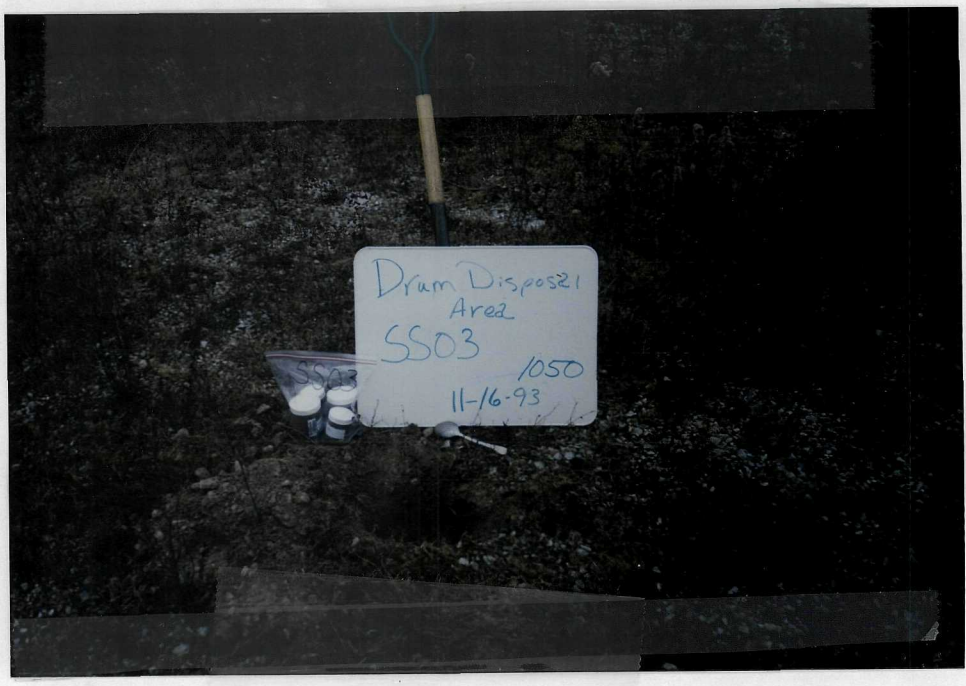
Photo Taken By: Mitchell P. Balek

Photo Number: 13

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southeast

Description: A close-up of sample SS03 location. Soil is light brown sandy gravel.



Date: 11-16-93

Time: 1050

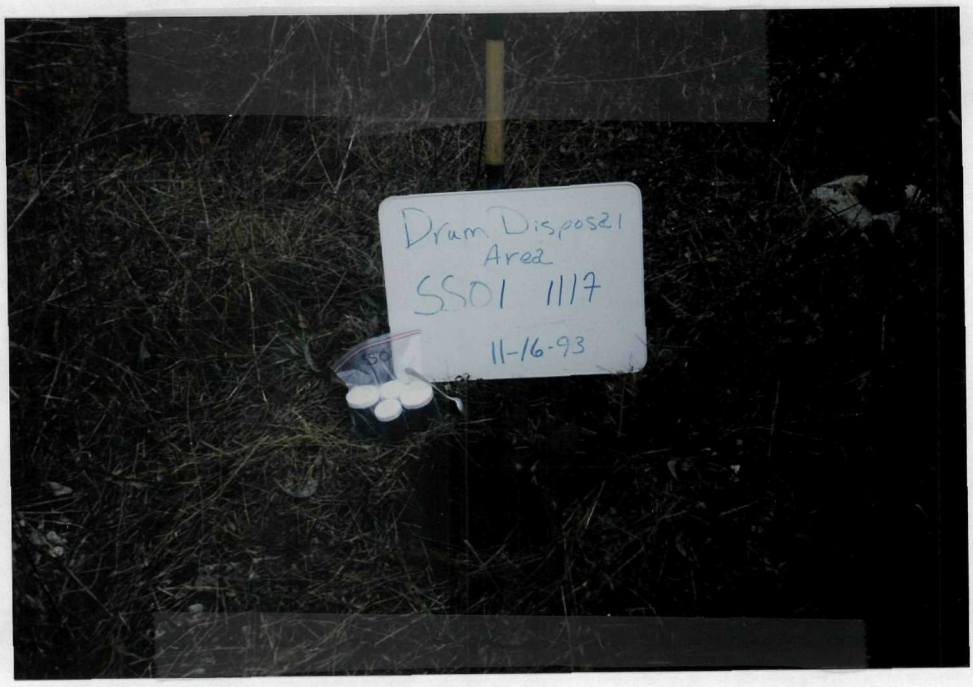
Photo Taken By: Mitchell P. Balek

Photo Number: 14

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southeast

Description: Further view of sample SS03 location.



Date: 11-16-93

Time: 1117

Photo Taken By: Mitchell P. Balek

Photo Number: 15

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: A close-up of sample SS01 location. Soil is red-brown to dark brown and grey-like topsoil.

Date: 11-16-93

Time: 1117

Photo Taken By: Mitchell P. Balek

Photo Number: 16

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Further view of sample SS01 location.

Date: 11-16-93

Time: 1150

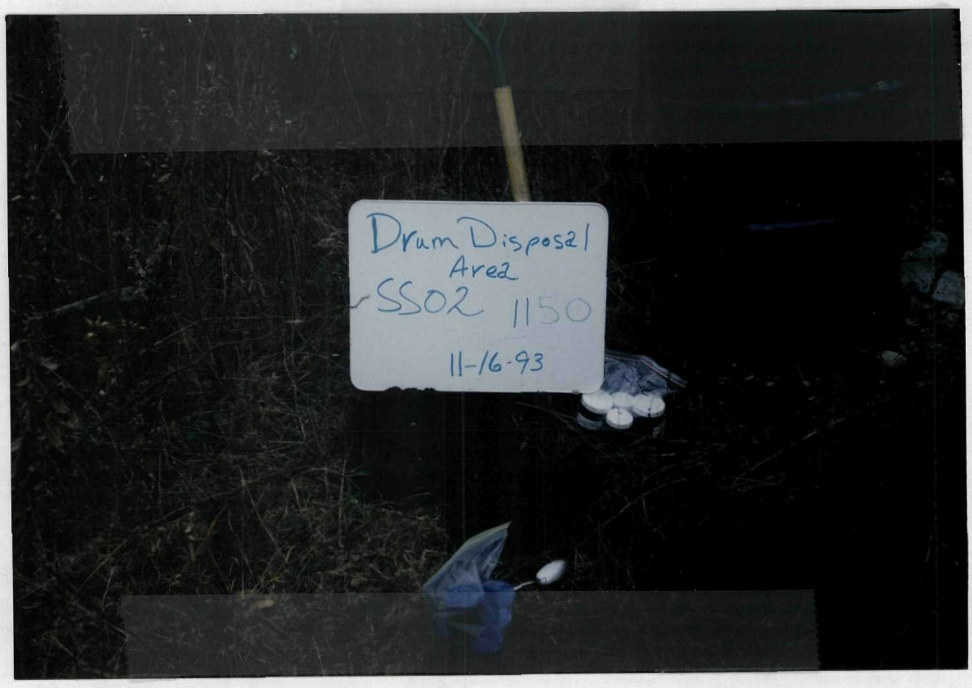
Photo Taken By: Mitchell P. Balek

Photo Number: 17

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: A close-up of sample SS02 location. Soil is dark brown to black topsoil.



Date: 11-16-93

Time: 1150

Photo Taken By: Mitchell P. Balek

Photo Number: 18

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Further view of sample SS02 location.

Date: 11-16-93

Time: 1405

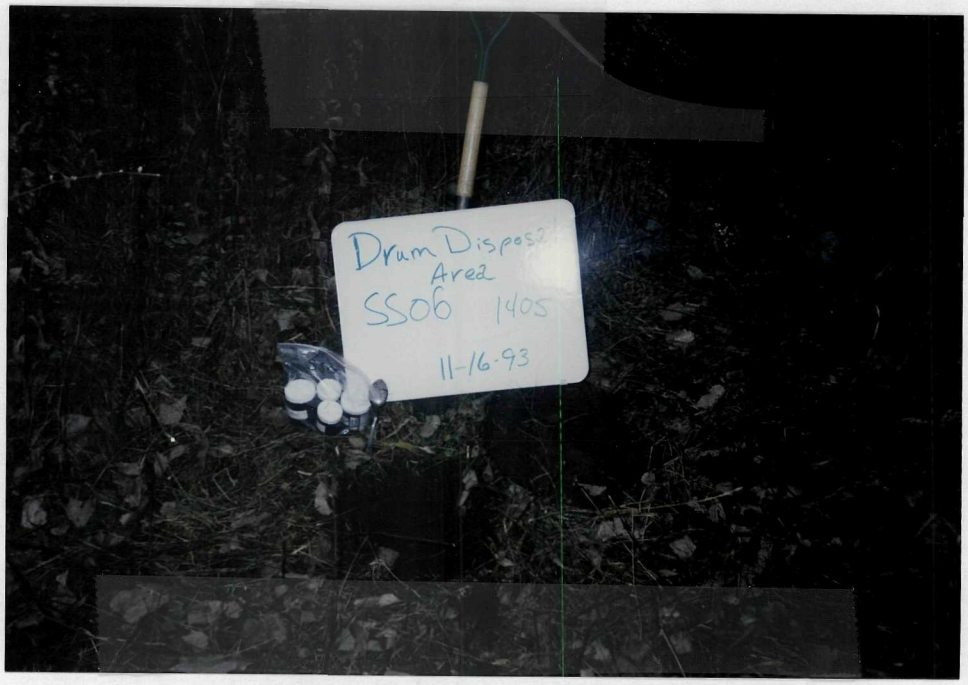
Photo Taken By: Mitchell P. Balek

Photo Number: 19

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southwest

Description: A close-up of sample SS06 location. Soil is brown to dark brown sandy clay.



Date: 11-16-93

Time: 1405

Photo Taken By: Mitchell P. Balek

Photo Number: 20

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southwest

Description: Further view of sample SS06 location.

Date: 11-16-93

Time: 1425

Photo Taken By: Mitchell P. Balek

Photo Number: 21

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: A close-up of sample SS07 location. Soil is brown to dark brown sandy clay.

Date: 11-16-93

Time: 1425

Photo Taken By: Mitchell P. Balek

Photo Number: 22

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Further view of sample SS07 location.

Date: 11-16-93

Time: 1625

Photo Taken By: Joan V. Gonzalez

Photo Number: 23

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Inorganic sample cooler sent to ITMO St. Louis Laboratory.

Date: 11-16-93

Time: 1645

Photo Taken By: Joan V. Gonzalez

Photo Number: 24

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Organic sample cooler sent to Encotec Laboratory.

Date: 11-17-93

Time: 0907

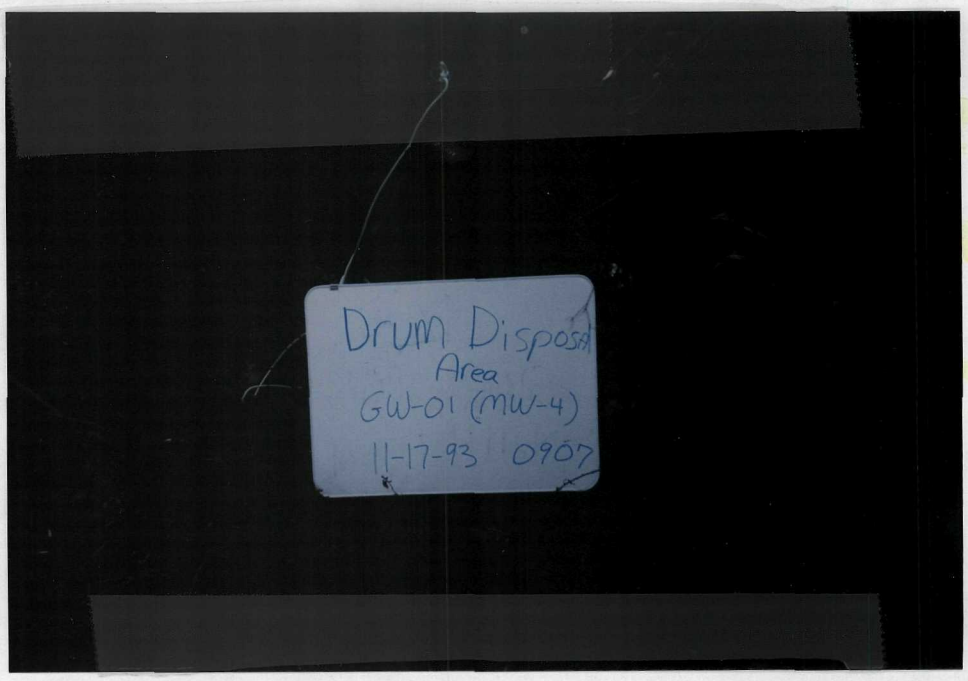
Photo Taken By: Mitchell P. Balek

Photo Number: 25

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Photo shows sample GW01 (MW-4) location.



Date: 11-17-93

Time: 0907

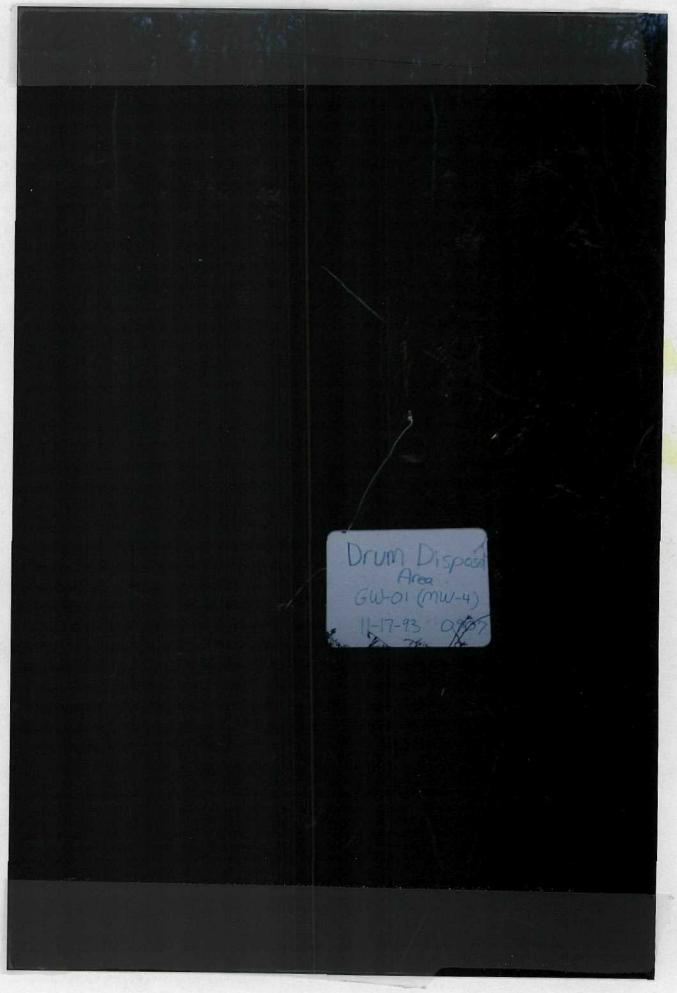
Photo Taken By: Mitchell P. Balek

Photo Number: 26

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Further view of sample GW01 (MW-4) location.



Date: 11-17-93

Time: 1030

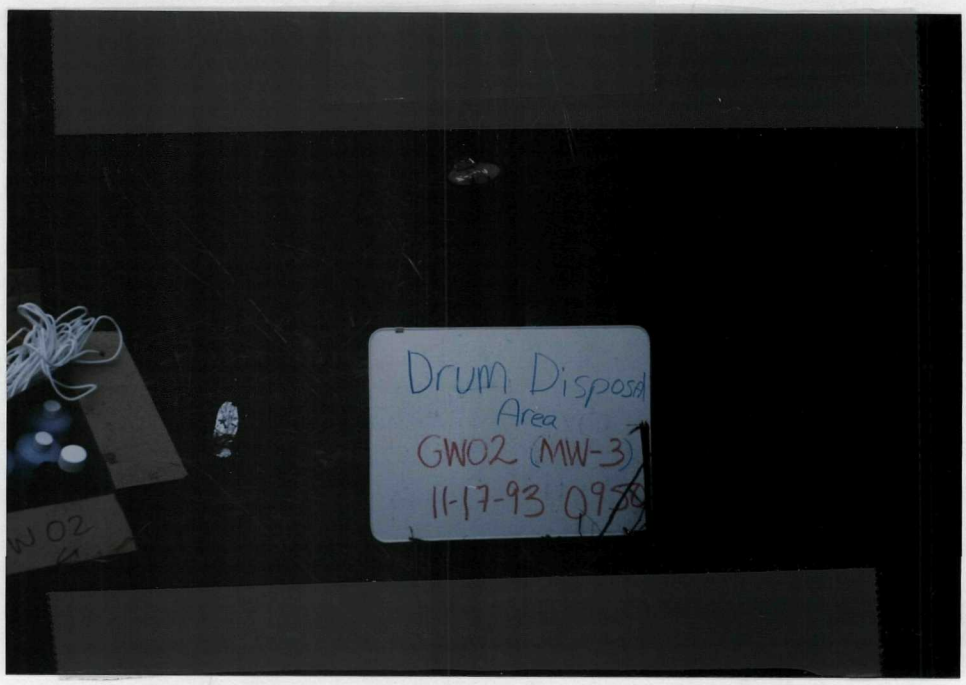
Photo Taken By: Mitchell P. Balek

Photo Number: 27

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northwest

Description: Photo shows sample GW02 (MW-3) location.



Date: 11-17-93

Time: 1030

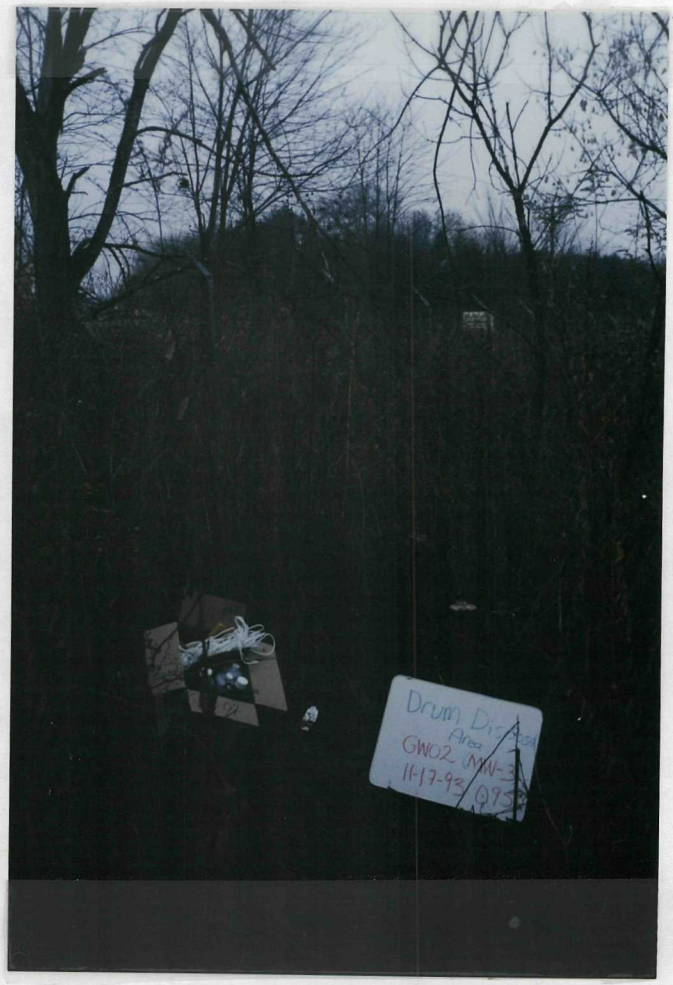
Photo Taken By: Mitchell P. Balek

Photo Number: 28

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northwest

Description: Further view of sample GW02 (MW-3) location.



Date: 11-17-93

Time: 1145

Photo Taken By: Mitchell P. Balek

Photo Number: 29

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northwest

Description: Photo shows sample GW04 (MW-7D) location.

Date: 11-17-93

Time: 1145

Photo Taken By: Mitchell P. Balek

Photo Number: 30

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northwest

Description: Further view of sample GW04 (MW-7D) location.

Date: 11-17-93

Time: 1145

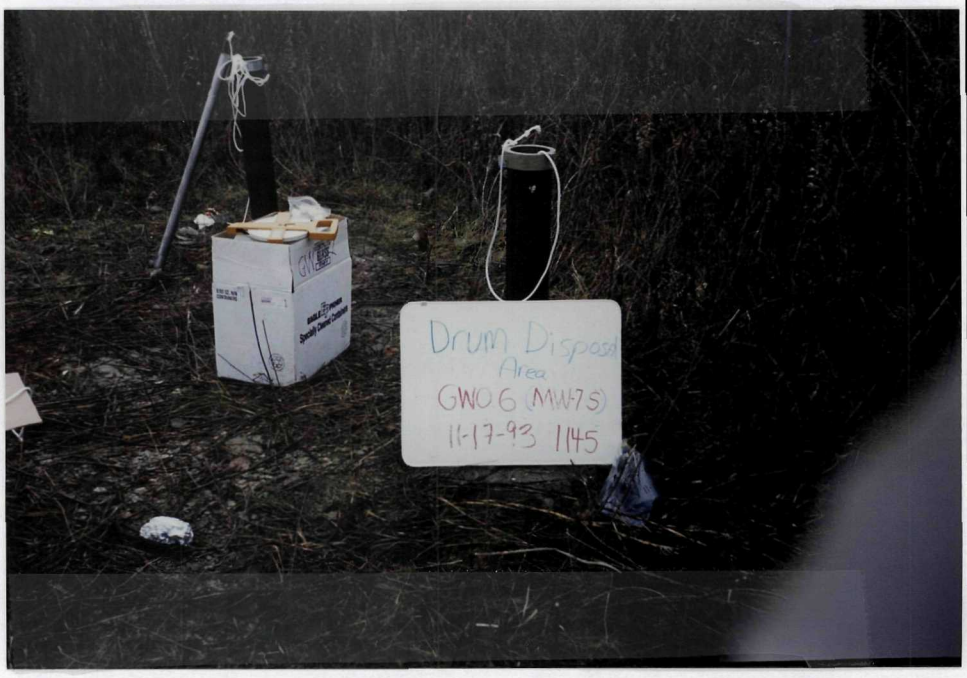
Photo Taken By: Mitchell P. Balek

Photo Number: 31

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northwest

Description: Photo shows sample GW06 (MW-7S) location.



Date: 11-17-93

Time: 1145

Photo Taken By: Mitchell P. Balek

Photo Number: 32

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northwest

Description: Further view of sample GW06 (MW-7S) location.

Date: 11-17-93

Time: 0915

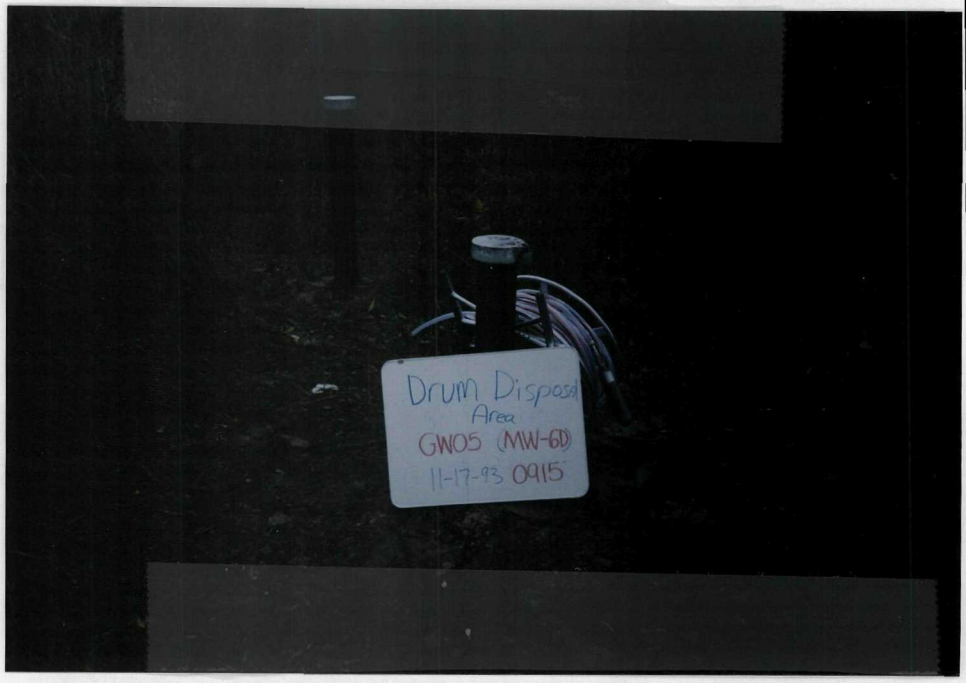
Photo Taken By: Joan V. Gonzalez

Photo Number: 33

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: North

Description: Photo shows sample GW05 (MW-6D) location.



Date: 11-17-93

Time: 0915

Photo Taken By: Joan V. Gonzalez

Photo Number: 34

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: North

Description: Further view of sample GW05 (MW-6D) location.

Date: 11-17-93

Time: 1045

Photo Taken By: Joan V. Gonzalez

Photo Number: 35

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Photo shows sample GW03 (MW-2) location.

Date: 11-17-93

Time: 1045

Photo Taken By: Joan V. Gonzalez

Photo Number: 36

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Further view of sample GW03 (MW-2) location.

Date: 11-17-93

Time: 1800

Photo Taken By: Joan V. Gonzalez

Photo Number: 37

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Photo shows the inorganic sample cooler sent to SVL Analytical Laboratory. Photo taken at ARCS V contractor's warehouse.

Date: 11-17-93

Time: 1800

Photo Taken By: Joan V. Gonzalez

Photo Number: 38

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Photo shows three organic sample coolers sent to Keystone Laboratory. Photo taken at ARCS V contractor's warehouse.

Date: 11-18-93

Time: 0850

Photo Taken By: Joan V. Gonzalez

Photo Number: 39

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southeast

Description: A close-up of the sediment sample ST04 location.

Date: 11-18-93

Time: 0850

Photo Taken By: Joan V. Gonzalez

Photo Number: 40

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southeast

Description: Further view of ST04 location.

Date: 11-18-93

Time: 0850

Photo Taken By: Joan V. Gonzalez

Photo Number: 41

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southwest

Description: Photo shows the site fence from a ridge approximately 45-feet from wetland.

Date: 11-18-93

Time: 0850

Photo Taken By: Joan V. Gonzalez

Photo Number: 42

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southwest

Description: Photo shows the site fence from the wetland.

Date: 11-18-93

Time: 0910

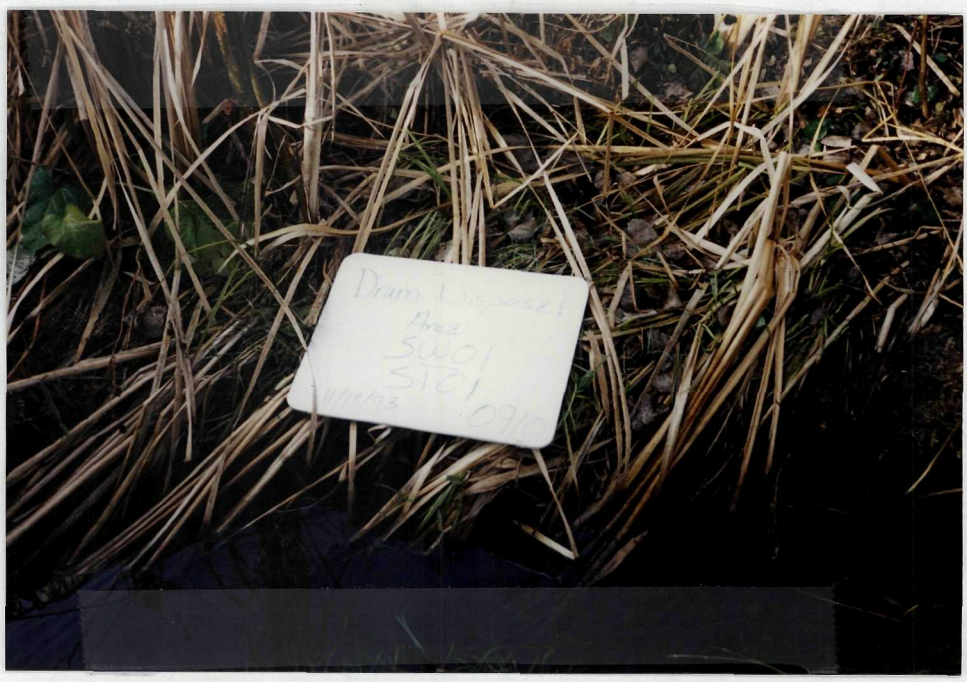
Photo Taken By: Joan V. Gonzalez

Photo Number: 43

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southwest

Description: A close-up of samples SW01 and ST01 location. Sediment is dark brown to black, sandy silt with organic matter.



Date: 11-18-93

Time: 0910

Photo Taken By: Joan V. Gonzalez

Photo Number: 44

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Southwest

Description: Further view of SW01 and ST01 location.

Date: 11-18-93

Time: 0910

Photo Taken By: Joan V. Gonzalez

Photo Number: 45

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: North

Description: Further view of SW01 and ST01 location.

Date: 11-18-93

Time: 1020

Photo Taken By: Joan V. Gonzalez

Photo Number: 46

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: A close-up of samples SW03 and ST03 location. Sediment is medium brown sandy silt with organic matter.

Date: 11-18-93

Time: 1020

Photo Taken By: Joan V. Gonzalez

Photo Number: 47

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Further view of SW03 and ST03 location.

Date: 11-18-93

Time: 1110

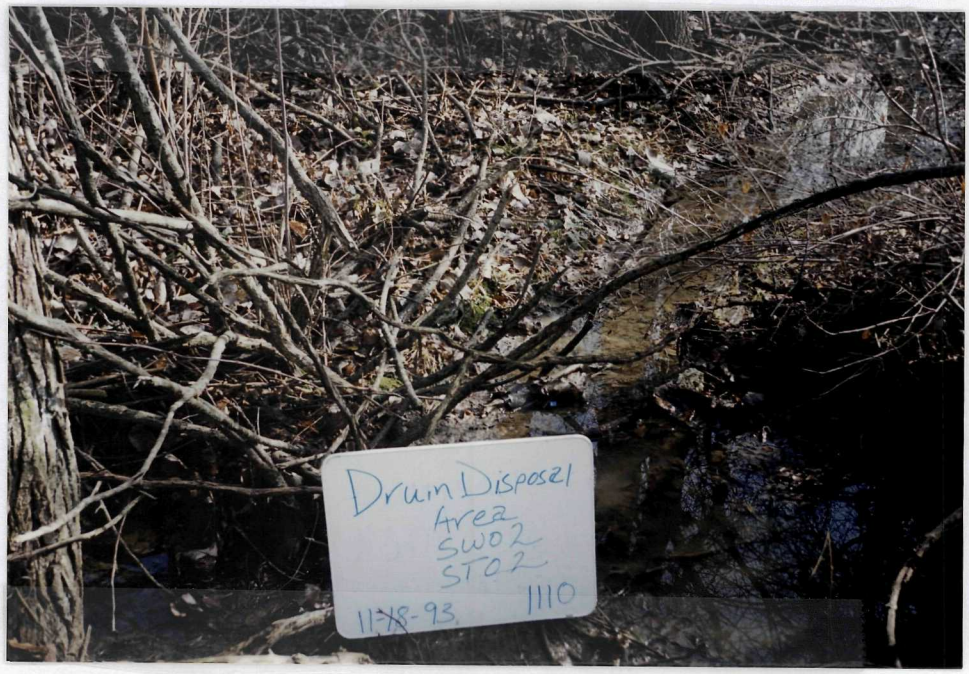
Photo Taken By: Joan V. Gonzalez

Photo Number: 48

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northeast

Description: A close-up of samples SW02 and ST02 location. Sediment is dark brown sandy silt with organic matter.



Date: 11-18-93

Time: 1110

Photo Taken By: Joan V. Gonzalez

Photo Number: 49

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: Northeast

Description: Further view of SW02 and ST02 location.

Date: 11-18-93

Time: 1630

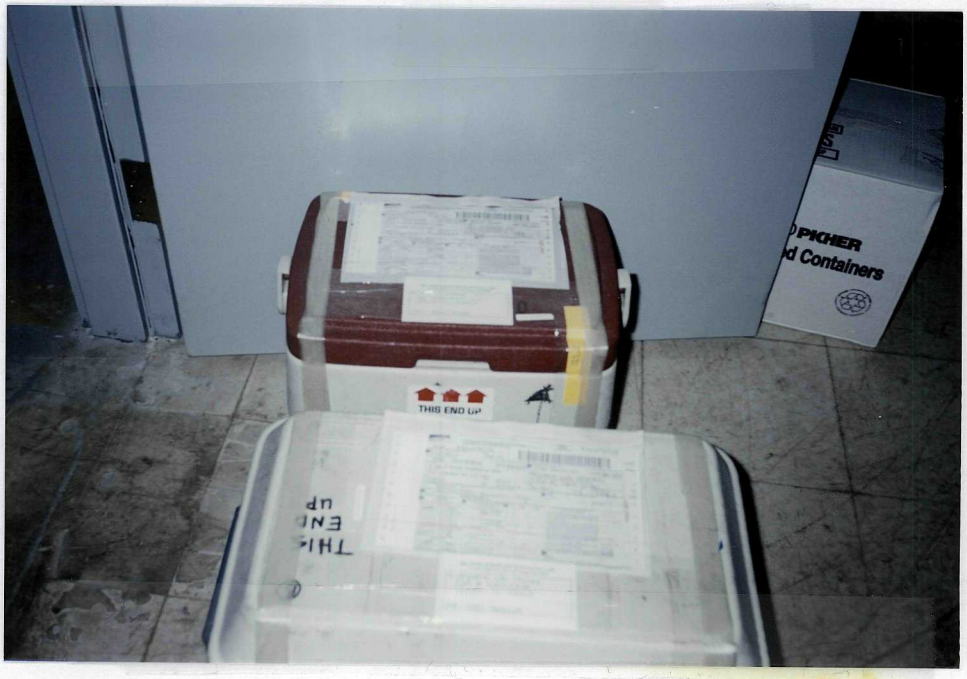
Photo Taken By: Joan V. Gonzalez

Photo Number: 50

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Photo shows one inorganic sediment sample cooler sent to SVL Analytical Laboratory and one organic sediment sample cooler sent to Keystone Laboratory. Photo taken at ARCS V contractor's warehouse.



Date: 11-18-93

Time: 1630

Photo Taken By: Joan V. Gonzalez

Photo Number: 51

Location/ILD #: Drum Disposal Area ILD 984 791 681

Direction of Photo: West

Description: Photo shows one inorganic surface water sample cooler sent to ITMO Laboratory and two organic surface water sample coolers sent to Encotec Laboratory. Photo taken at ARCS V contractor's warehouse.

Appendix F

Representative Well Logs

Drum Disposal Area

BORING/WELL LOG DATA

PROJECT: Prairie Materials	BORING/WELL I.D. SB-3/MW-2
LOCATION: Orland Park, Illinois	DATE DRILLED: 10/29/90
DRILLING METHOD: 6.25" Hollow-Stem Auger	GROUT TYPE/QUANTITY: Bentonite Pellets
TOTAL DEPTH DRILLED: 14' BGL	GROUT INTERVAL: To Surface
DEPTH TO WATER: 11'	CASING TYPE/DIA: Stainless # 304
STATIC WATER ELEVATION: N/A	CASING LENGTH: 9'
GROUND ELEVATION: N/A	SCREEN TYPE/LENGTH: 5'
T.O.C. ELEVATION: N/A	SCREENED INTERVAL: 9'-14'
LOGGED BY: George F. Moncek	GRAVEL PACK TYPE: Quartz Sand
SIGNATURE: George Moncek	GRAVEL PACK INTERVAL: 7'-14'
NOTES:	

DEPTH	FORMATION DESCRIPTION
0-3.5'	Fill: Brown silty loam. Organic. Dry no odors.
3.5'-8.5'	Sand: Tan/brown coarse grained poorly sorted silty sand. Moist. No hydrocarbon odros present.
8.5'-10'	Sand: Tan/brown coarse grained sand with minor gravel component (15%). Moist. No hydrocarbon odors present.
10'-12'	Sand: Tan/brown coarse grained sand and gravel. Saturated at 11 feet below ground level. No hydrocarbon odors present.
12'-14'	Gravel: Tan/brown coarse grained, poorly sorted, angular to sub-angular gravel and sand with cobbles and pebbles. Saturated throughout. No sheen observed. No odors.

DEPTH	BLOW COUNTS	PID
3.5'-5'	2-2-4	BDL
8.5'-10'	1-3-8	BDL
10'-12'	6-8-12	BDL
12'-14'	18-22-12	BDL

Note: BDL - Below Detectable Limits.

[illegible] Consultants Inc

BORING/WELL LOG DATA

PROJECT: Prairie Materials	BORING/WELL I.D. SB-6/MW-3
LOCATION: Orland Park, Illinois	DATE DRILLED: 10/30/90
DRILLING METHOD: 6.25" Hollow-Stem Auger	GROUT TYPE/QUANTITY: Bentonite Pellets
TOTAL DEPTH DRILLED: 14' BGL	GROUT INTERVAL: To Surface
DEPTH TO WATER: 10' BGL	CASING TYPE/DIA: Stainless #304
STATIC WATER ELEVATION: N/A	CASING LENGTH: 9'
GROUND ELEVATION: N/A	SCREEN TYPE/LENGTH: 5'
T.O.C. ELEVATION: N/A	SCREENED INTERVAL: 14'-9'
LOGGED BY: George F. Moncek	GRAVEL PACK TYPE: Quartz Sand
SIGNATURE: George Moncek	GRAVEL PACK INTERVAL: 7'-14'

NOTES:

Hydrocarbon odors were observed at a depth of 8.5'-12'

DEPTH	FORMATION DESCRIPTION
0-3.5'	Fill: Brown silty loam. Moist. No odors.
3.5'-8.5	Sand: Tan/brown silty sand
8.5'-12'	Sand: Gray silty sand. Moist to 10' below ground level. Saturated at 10' below ground level. Hydrocarbon odors present.
12'-14'	Clay: Gray silty clay. Moist. No hydrocarbon odors present.

DEPTH	BLOW COUNTS	PID
3.5'-5'	3-4-4	BDL
8.5'-10'	4-2-3	50 ppm
10'-12'	1-2-4-6	2 ppm
12'-14'	16-12-19-20	1 ppm

Note: BDL - Below Detectable Limits.

Prairie Environmental Specialists, Inc.

BORING/WELL LOG DATA

PROJECT: Prairie Materials	BORING/WELL I.D. SB-8/MW-4
LOCATION: Orland Park, Illinois	DATE DRILLED: 10/30/90
DRILLING METHOD: 6.25" Hollow-Stem Auger	GROUT TYPE/QUANTITY: Bentonite Pellets
TOTAL DEPTH DRILLED: 14' BGL	GROUT INTERVAL: To Surface
DEPTH TO WATER: 11' BGL	CASING TYPE/DIA: Stainless #304
STATIC WATER ELEVATION: N/A	CASING LENGTH: 9'
GROUND ELEVATION: N/A	SCREEN TYPE/LENGTH: 5'
T.O.C. ELEVATION: N/A	SCREENED INTERVAL: 14'-9'
LOGGED BY: George F. Moncek	GRAVEL PACK TYPE: Quartz Sand
SIGNATURE: George F. Moncek	GRAVEL PACK INTERVAL: 7'-14'
NOTES:	

DEPTH	FORMATION DESCRIPTION
0-8.5'	Fill: Brown silty loam. Moist. No odors
8.5'-10'	Sand: Tan/brown coarse grained sand. Moist. No hydrocarbon odors present.
10' 14'	Sand: Tan/brown medium grained sand. Saturated at 11' below ground level. No hydrocarbon odors present.

DEPTH	BLOW COUNTS	PID
3.5'-5'	6-10-12	BDL
8.5'-10'	3-2-9	BDL
10'-12'	1-2-3-3	BDL
12'-14'	3-8-19-21	BDL

Note: BDL - Below Detectable Limits.

Prairie Environmental Specialists, Inc.

BORING/WELL LOG DATA

PROJECT: Prairie Materials	**BORING/WELL I.D.:** MW-6D
LOCATION: Orland Park, Illinois	**DATE DRILLED:** 1-29-92
DRILLING METHOD: 6 1/4" I.D. HSA	**GROUT TYPE/QUANTITY:** Bentonite Pellets/Grout
TOTAL DEPTH DRILLED: 59.5' BGL	**GROUT INTERVAL:** -43.5' + 1' AGL, Concrete
DEPTH TO WATER: 18.28' TOC (6-17-92)	**CASING TYPE/DIA:** 2" Diameter Stainless (#304)
STATIC WATER ELEVATION: 661.42	**CASING LENGTH:** -49.5' + 2.5' AGL
GROUND ELEVATION: 677.38	**SCREEN TYPE/LENGTH:** 10' Stainless (#304)
T.O.C. ELEVATION: 679.70	**SCREENED INTERVAL:** -59.5'-49.5' BGL (0.01 Slot)
LOGGED BY: Michael J. Kohl	**GRAVEL PACK TYPE:** Washed Quartz Sand
SIGNATURE: Michael J. Kohl	**GRAVEL PACK INTERVAL:** -59.5'-43.5'

NOTES: BGL -Below Ground Level TOC -Top of Casing HSA -Hollow Stem Auger AGL -Above Ground Level

DEPTH	FORMATION DESCRIPTION
0' - 6'	FILL:Tan/brown coarse to fine silty sand Fill, trace to little gravel and clay, trace roots moist, (Note: Asphalt aggregate fill material), no visual/olfactory evidence of contamination.
6' - 16'	CLAY: Black to brown silty sand Clay with trace-some fine to medium gravel, wet to saturated. (Note: 2" Brown coarse to fine sand and 4" brown silt at bottom 6" of spoon at 15.5' - 16' BGL), no visual/olfactory evidence of contamination.
16'- 21.5'	SAND: Brown and gray coarse to fine poorly sorted Sand, trace to little angular - subangular fine to medium gravel, saturated conditions. (Note: 4" brown silt at 16' - 18' sample interval upper spoon), no visual/olfactory evidence of contamination.
21.5'- 31.5'	CLAY: Brown gray silty Clay with trace angular - subangular fine gravel, wet-saturated (Note: increase of sand content at 28.5' - 30.5' BGL sampling interval), no visual/olfactory evidence of contamination.
31.5'-45'	SAND: Brown and gray coarse to fine poorly sorted Sand, trace some fine gravel, saturated conditions. (Note: Gradation of sands/gravels occurs throughout sampling intervals). Gray sandy silt at 40' - 40.5' BGL, no visual/olfactory evidence of contamination.
45'-54'	CLAYEY SILT: Gray Clayey Silt with fine sand lenses moist to wet. (Note: 1/4"-1/2" fine sand lenses throughout sampling sequence), no visual/olfactory evidence of contamination.
54'-59.5'	SAND: Gray silty fine Sand grading to coarse to fine sand at 56.3' BGL, trace angular - subangular dolomite pieces and gravel, saturated conditions. Bedrock: Gray Dolomite at 59.5', no visual/olfactory evidence of contamination.

BORING/WELL LOG DATA

PROJECT: Prairie Materials	**BORING/WELL I.D.:** MW-7S
LOCATION: Orland Park, Illinois	**DATE DRILLED:** 1-29-92
DRILLING METHOD: 4 1/4" I.D. HSA	**GROUT TYPE/QUANTITY:** Bentonite Pellets/Grout
TOTAL DEPTH DRILLED: 21' BGL	**GROUT INTERVAL:** -3' - 1' BGL, Concrete
DEPTH TO WATER: 13.97' TOC (6-17-92)	**CASING TYPE/DIA:** 2" Diameter Stainless (#304)
STATIC WATER ELEVATION: 662.56	**CASING LENGTH:** -5' + 3' AGL
GROUND ELEVATION: 673.86	**SCREEN TYPE/LENGTH:** 15' Stainless (#304)
T.O.C. ELEVATION: 676.53	**SCREENED INTERVAL:** -21' - 5' BGL (0.01 Slot)
LOGGED BY: Robert E. Renguso	**GRAVEL PACK TYPE:** Washed Quartz Sand
SIGNATURE: Robert E. Renguso	**GRAVEL PACK INTERVAL:** -21' - 3' BGL

NOTES: BGL -Below Ground Level TOC -Top of Casing HSA - Hollow Stem Auger AGL -Above Ground Level

DEPTH	FORMATION DESCRIPTION
- 11'	CLAY: Brown to orange-brown silty sandy clay with 1" - 6" fine-coarse sand/gravel lenses, trace angular-subangular gravel, moist to saturated conditions, no visual/olfactory evidence of contamination.
11' - 19'	CLAY: Brown/gray to orange-brown silty sandy Clay, trace fine gravel grading to gray mottled Clay, moist-wet. (Note: Fine to medium sand and silt lenses/partings throughout sampling sequence at 15' - 19' sampling sequence), no visual/olfactory evidence of contamination.

DEPTH INTERVAL (FT.-BGL)	BLOW COUNTS	FIELD PID (PPM)
1' - 3'	2-4-5-6	BDL
3' - 5'	2-3-5-4	BDL
5' - 7'	3-3-4-3	BDL
7' - 9'	2-1-3-4	BDL
9' - 11'	4-4-4-5	BDL
11' - 13'	3-3-7-7	BDL
13' - 15'	11-9-9-7	BDL
15' - 17'	3-3-7-6	BDL
17' - 19'	8-5-7-6	BDL

Note: The soil samples were screened for volatile organic vapors using a calibrated HNu Meter (Model PI-101) with 10.2 eV probe and are expressed in parts-per-million (ppm) meter unit concentrations.

BDL = Below Detection Limit.

BORING/WELL LOG DATA

PROJECT: Prairie Materials	**BORING/WELL I.D.:** MW-7D
LOCATION: Orland Park, Illinois	**DATE DRILLED:** 1-30-92
DRILLING METHOD: 4 1/4" I.D. HSA	**GROUT TYPE/QUANTITY:** Bentonite Pellets/Grout
TOTAL DEPTH DRILLED: 49' BGL	**GROUT INTERVAL:** -32'-3' BGL, Concrete
DEPTH TO WATER: 15.08' TOC (6-17-92)	**CASING TYPE/DIA:** 2" Diameter Stainless (#304)
STATIC WATER ELEVATION: 661.42	**CASING LENGTH:** -39' + 2.5' AGL
GROUND ELEVATION: 674.13	**SCREEN TYPE/LENGTH:** 10' Stainless (#304)
T.O.C. ELEVATION: 676.50	**SCREENED INTERVAL:** -49'-39' BGL (0.01 Slot)
LOGGED BY: Robert E. Renguso	**GRAVEL PACK TYPE:** Washed Quartz Sand
SIGNATURE: Robert E. Renguso	**GRAVEL PACK INTERVAL:** -49'-32' BGL

NOTES: BGL -Below Ground Level TOC -Top of Casing HSA -Hollow Stem Auger AGL -Above Ground Level

DEPTH	FORMATION DESCRIPTION
0' - 11'	CLAY: Brown to orange-brown silty sandy Clay trace fine-medium angular and subanglar gravel and roots, strong oxidation zones, wet to saturated conditions, no visual/olfactory evidece of contamination.
11'- 23.5'	CLAY: Gray mottled Clay, trace fine subangular gravel, (Note: Gray silt lenses and partings throughout sampling sequence, wet-saturated conditions, no visual/olfactory evidence of contamination.
23.5'-47'	SAND: Brown and gray well poorly Sand, coarse-fine grained, trace angular-subangular gravel, saturated conditions. Bedrock Gray Dolomite at 47' BGL. No visual/olfactory evidence of contamination.